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Trend of cerebral aneurysms over the past two centuries: need for early screening

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ABSTRACT

Objective Cerebral aneurysms (CAs) are linked to variations in the cerebral basal arterial network (CBAN). This study aimed to find the optimal age for screening to detect brain arterial variations and predict aneurysms before rupture.

Design An observational, quantitative and retrospective research.

Setting The study analysed 1127 cases of CAs published from 1761 to 1938. Additionally, CT angiography images of 173-patients at the Royal Adelaide Hospital (RAH), South Australia between 2011 and 2019 were examined for the presence and the location of aneurysms in CBAN.

Participants The data were collected from patients at RAH and 407 published sources, including males and females across the entire age range, up to 100 years old.

Outcome measures and results Data, CAs cases, from 1761 to 1938 included (526 males, 573 females and 28 unknown sexes). The age of these patients varied from 18 months to 89 years (mean age=42, SD=18). Approximately 11.5% of the CAs occurred in patients aged <20 years. Among the 1078 aneurysms whose location was reported, 76% were located in the internal carotid (IC), middle cerebral (MC) and anterior communicating artery complex (AcomAC) regions, while the remaining 24% were in the vertebrobasilar region. Among 173 patients from RAH aged between 18 and 100 years (male=83 and female=90, mean age=60, SD=16), 94% of the CAs were found in the IC, MC and AcomAC regions. The pattern of aneurysm occurrence, as indicated by values at the 25th, 50th and 75th percentiles, along with the minimum and maximum patient ages, has remained consistent from 1761 to 2019.

Conclusion The distribution pattern of CAs in relation to sex, age and locations in the CBAN, remained steady over the last 260 years resulting in risk of strokes early in life. Therefore, early screening for CBAN segment variations is advised for stroke prevention if possible.

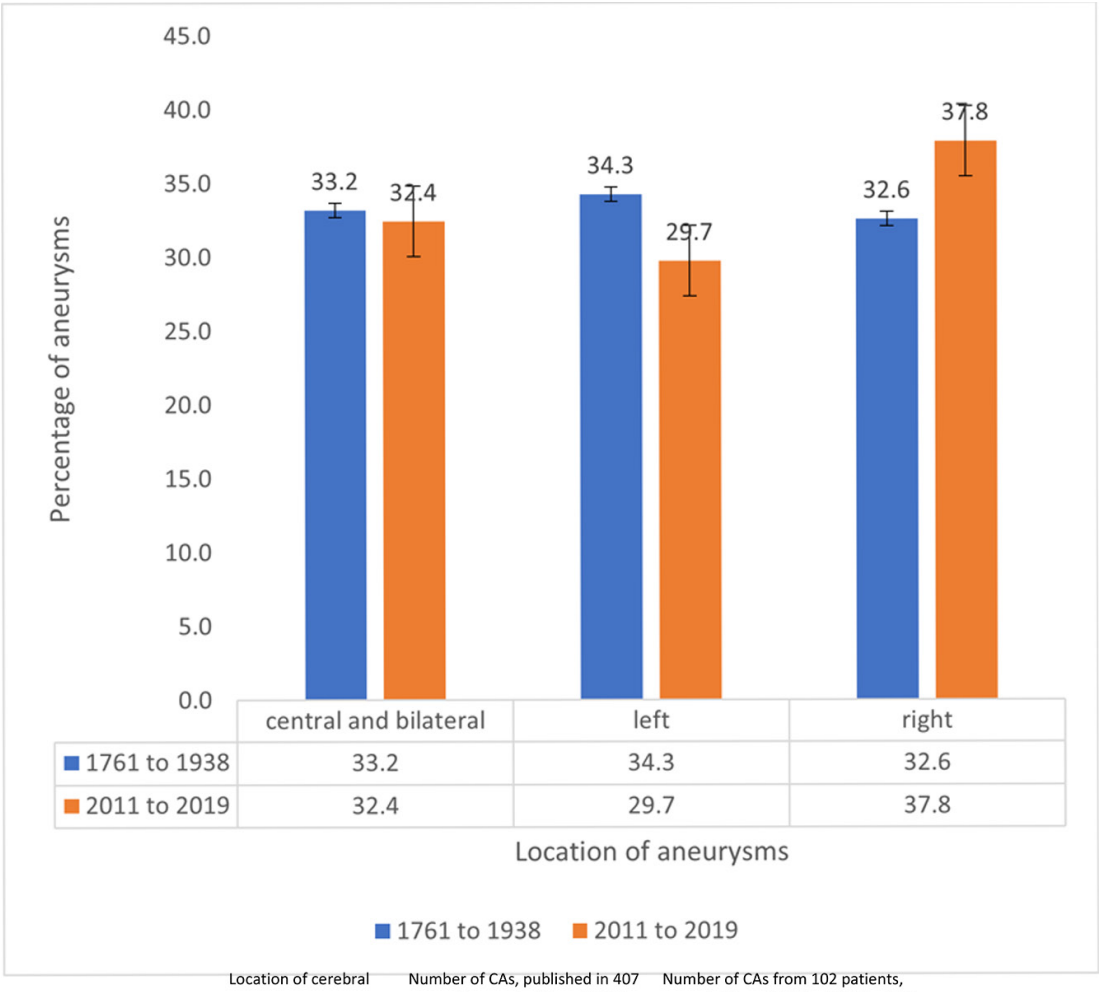
STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ To our knowledge, the patterns of distribution and trends of occurrence of cerebral aneurysms have not been systematically studied over the past 260 years.
⇒ Aneurysms can develop at any age in the presence of variations in cerebral basal arterial network (CBAN).
⇒ Early detection of variations in CBAN in infant using non-invasive Doppler ultrasound technique is recommended and continuing screening regularly as needed.
⇒ Reported cases from the tertiary medical centres and 407 papers published over the past 260 years may not represent the general population precisely.
⇒ This investigation is not a continuous study.

INTRODUCTION

Anatomical variations among components of the cerebral basal arterial network (CBAN) in addition to the trauma, infection, spontaneous dissections and collagen disorders have been linked to the formation of cerebral aneurysms (CAs)[1–3] and such variations develop during the period of embryonic life.[2] The period taken for the development of CAs may vary among individuals and once formed they may enlarge, compress the surrounding tissues and rupture leading to subarachnoid haemorrhage (SAH).[3]

CAs of all sizes have been observed to cause SAH in adults[4] (incidence 6–10/100 000), however, they also occur in the age group 0–20 years (incidence rate=1.4–2 per 100 000).[5–7] It is not clear that the occurrence of anatomical variation-related aneurysms is limited to any specific age. The management of complicated CAs is costly and the CAs can leave permanent disabilities or even become fatal costing millions of dollars to families and governments.[7–12] The majority of childhood SAH (ie, incidence 1.4–2 per 100 000 children) are caused by the pre-existing CAs.[13] About 5% of the total cerebral aneurysmal cases diagnosed in the clinical setup were in the age group 0–19 years and the incidence of childhood SAH is significantly greater in the older age children.[13] The clinical manifestation of aneurysmal cases seen later in life might be the consequence of aneurysms that developed in early childhood. Therefore, this study aims to review cases of CAs using data collected from a tertiary medical centre (Royal Adelaide Hospital (RAH), South Australia) and published sources to investigate the recent pattern of CAs and how it has changed over the past 260 years. The null hypothesis is that the advancement of



Location of cerebral aneurysms	Number of CAs, published in 407 papers[14], recorded from 1761 to 1938	Number of CAs from 102 patients, recorded from 2011 to 2019 in RAH
central and bilateral	374	44
left	386	40
right	367	51
Total	1127	135

Figure 1 Comparison of the location of cerebral aneurysms (CAs) between Royal Adelaide Hospital (RAH) sample (2011–2019) (n=135 CAs from 102 patients, orange colour) with those recorded in 407 publications (1761–1938) (n=1127 CAs, blue colour).[14]

medical science did not lead to a reduction in the prevalence of aneurysms by age.

MATERIALS AND METHODS

Study design and setting

Two types of data were used in this study:

1. Type 1 data are composed of 1127 cerebral aneurysmal cases that were published in the 407 papers from 1761 to 1938, as compiled by McDonald and Korb.[14] These CAs were identified at autopsy and included patients of all ages (average age=41.7 years, mode age=41 years, median age=41 years, SD=17.7, age range 1.5–89 years) (online supplemental files 1 and 2).
2. Type 2 data were cerebral CT angiography (CTA) images obtained from 173 randomly selected patients, who visited RAH, South Australia, between January 2011 and December 2019 for a variety of cranial pathologies; their age ranged from 18 to 100 years, males=83, females=90, mean age=60 years, median age=62 years, mode age=61 years, SD=15.72) with (n=102) or without (n=71) aneurysms (online supplemental files 2 and 3). These images were anonymised, stored in the Carestream data registry system. The consent documents taken from each patient were not provided to the researchers to ensure privacy. The research materials used in this study comprised 1229 observed cases of CAs that spread across all age groups, spanning a period of approximately 260 years.

Data sources and size

Type 1 data: a range of variables (such as, the year CAs was detected, age, sex, location of the aneurysm) related to 1127 cases of CAs reported in publications from 1761 to 1938,[14] were transferred into an excel data file, rearranged and subjected to analysis (online supplemental

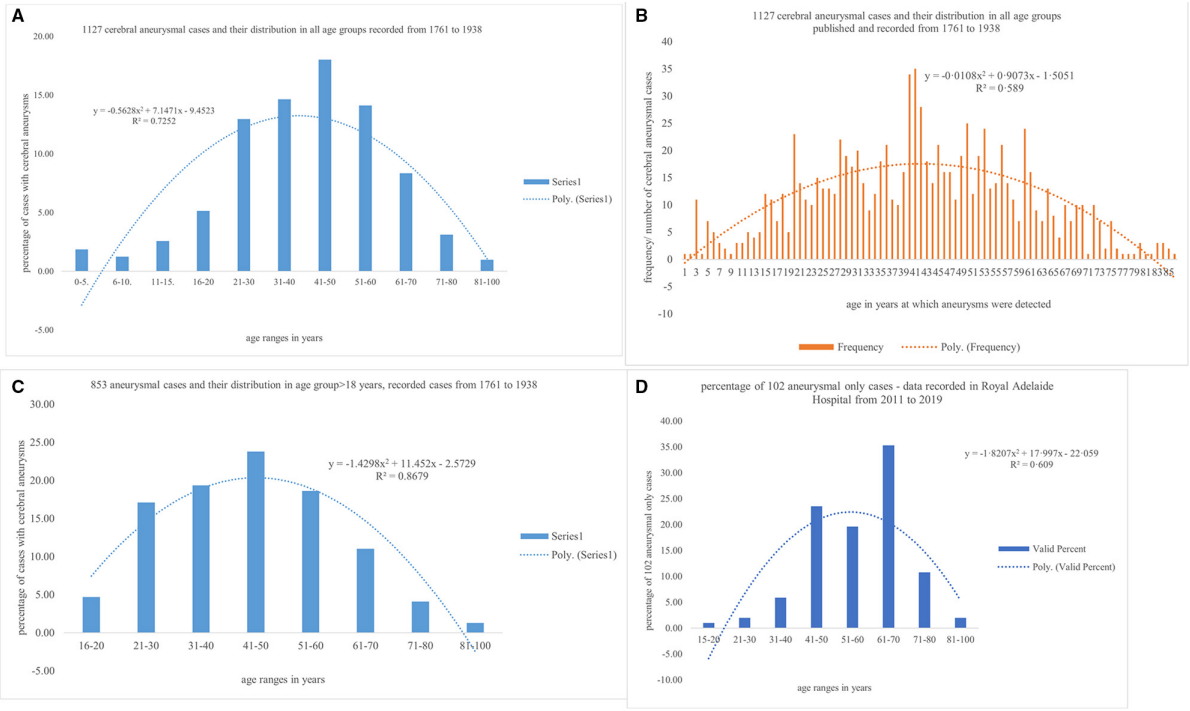


Figure 2 Figures displaying the distribution patterns of cerebral aneurysms (CAs) in different age groups recorded from 1761 to 1938 and from 2011 to 2019. A polynomial regression lines show the number and distribution of CA cases across all age groups. (A) The distribution of cerebral aneurysmal cases (n=1127) in various age groups, recorded from 1761 to 1938.[14] (B) The frequency of cerebral aneurysmal cases and their distribution (n=1127) across all age groups recorded[14] from 1761 to 1938. (C) Age-related (≥18 years) distribution of individuals affected with CAs over the past 260 years (1761–1938) (n=853), recorded[14] from 1761 to 1938, and (D) age-related (18–100 years) prevalence (%) of CAs in Royal Adelaide Hospital (RAH) sample from 2011 to 2019 (n=102). The peak prevalence occurred between 31 and 60 years (p<0.001).

file 1). Type 2 data: the cerebral CTA of 173 patients recorded from 2011 to 2019 in RAH were accessed to study the presence and absence of CAs in different locations of CBAN based on diagnoses made by clinicians. Some cases had multiple aneurysms located in the various segments of CBAN (online supplemental file 3).

The above cases of CAs were grouped into age ranges 0–5, 6–10, 11–15, 16–20, 21–30, 31–40, 41–50, 51–60, 61–70, 71–80 and >81 years and transferred into the SPSS V.25 software, for analyses (online supplemental file 1). The observation error has been tested by repeating the observation of the location of CAs in the cerebral CTA images in 20 cases, a month after the first study. There was 100% agreement of repeated observations with those of the first one. The sites of the formation of aneurysms were recorded as the left and right, internal carotid artery (ICA), middle cerebral artery (MCA), anterior cerebral artery (ACA), anterior communicating artery complex (AcomAC), posterior communicating artery, posterior cerebral artery, vertebral artery, basilar artery, posterior inferior cerebellar artery, anterior inferior cerebellar artery, superior cerebellar and pial arterial regions. In some cases, the areas of location of aneurysms seemed not to have been mentioned and those cases were tabulated under the heading of 'aneurysms located in CBAN'. Overall, the locations of nearly 1229 aneurysmal cases from both datasets were broadly divided into four categories: central and bilateral, left and right (figure 1) before being plotted in the bar charts to study the location and distribution trends of aneurysms in the arterial network over the past 260 years (figure 2). The aneurysms located in the AcomAC, and basilar arterial regions were classified as the central group of aneurysms. Additionally, in a few cases aneurysms were located simultaneously on left and right sides and those cases were grouped as 'bilateral' (online supplemental files 1 and 3 and figure 1).

Statistical methods

Data were analysed using Excel and Statistical Package for the Social Sciences (SPSS-IBM, V.25) program (eg, descriptive and χ^2 tests). The p values <0.05 were considered as statistically significant.

Patient and public involvement

Involving patients was challenging for conducting and planning this research, since researchers were allowed the access only to anonymised raw data recorded in the database. As per the ethics permit, we accessed retrospective anonymised data, precluding patient involvement in research planning and execution. The shared outcome of this study will be informed to the public, families and patients who attend medical centres for various clinical visits, through a series of meetings, seminars and media releases.

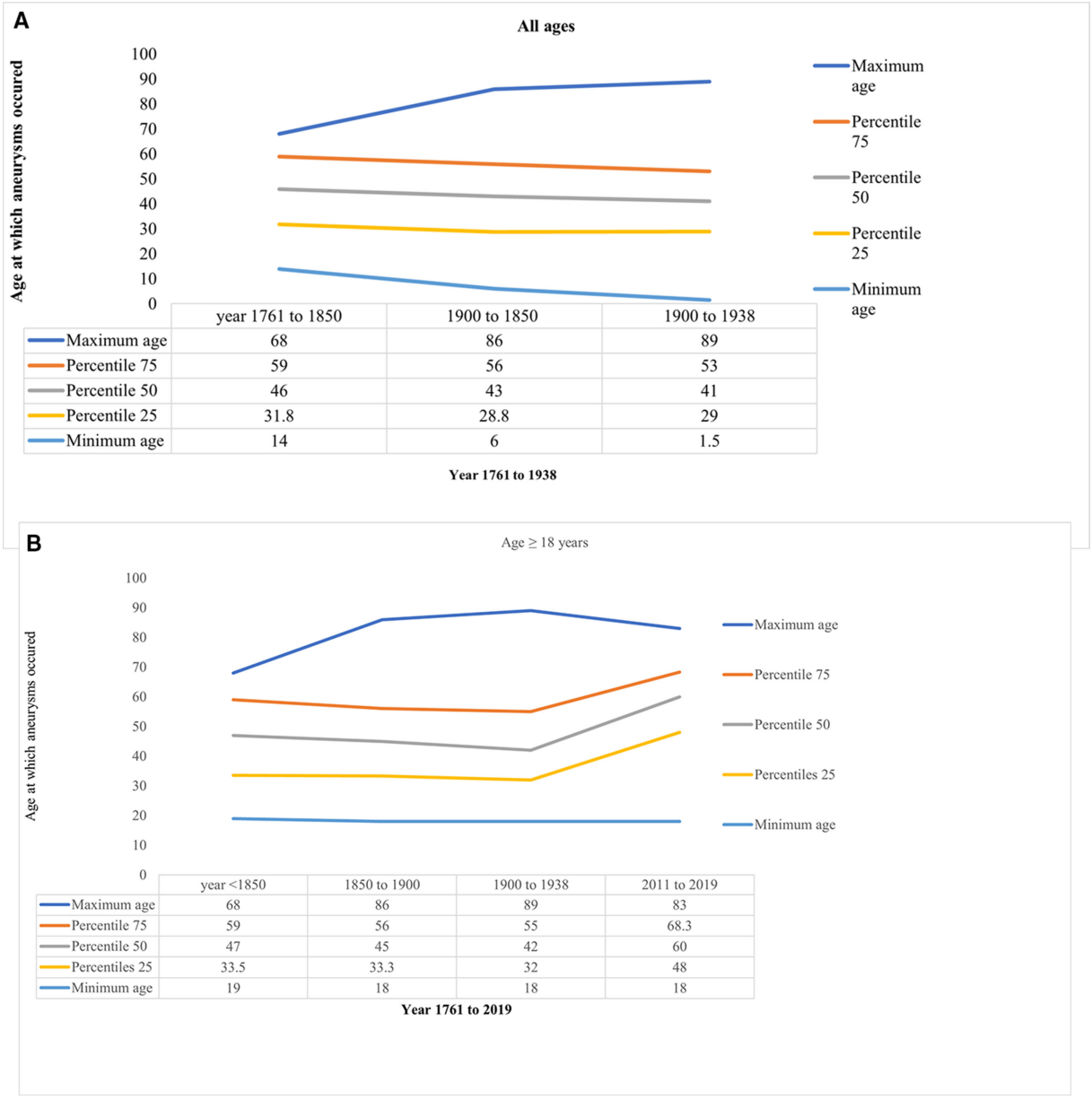


Figure 3 Comparison figures showing the trend of occurrence of cerebral aneurysms at different age group (n=1127) from 1761 to 2019. (A)The values of the 25th, 50th and 75th percentiles, as well as the minimum and maximum observed all ages of patients with aneurysms, from 1761 to 1938.[14] (B) The values of the 25th, 50th and 75th percentiles, as well as the minimum and maximum observed patients with >18 years of age with aneurysms, recorded from 1761 to 1938[14] and 2011 to 2019 in Royal Adelaide Hospital.

Findings

This study reviewed 1127 aneurysmal cases of patients of all ages from a total of 407 published articles prior to the year 1939. The ages of these patients (males=526, females=573, unknown sex=28) ranged from 18 months to 89 years of age with an average of 41.70 years, mode of 41 years and median of 41 years (SD=17.7) (online supplemental file 2, figure 2A–C and online supplemental file 1). The second group of patients with CAs (44 males and 58 females, and n=102) from RAH (2011–2019) with the age range 18–100 years showed that the most common age for diagnosis or complication of CAs ranged from 31 to 60 years with the calculated mean, median, mode and SD of 57.60, 60.00, 48.00 and 13.12 years, respectively (figure 2D and online supplemental file 4). Analysis of both sets of data revealed that the majority of the patients who presented with complicated aneurysms were in their third to sixth decades of life (online supplemental file 2).

The most important aspect of the two sets of data was the wide age range of occurrence of CAs and the fact that some of the complicated aneurysmal cases appeared at an early age (figure 2A,B, online supplemental file 1). A separate analysis was conducted for 853 out of the 1127 cases of CAs recorded before 1938 (males=409, females=438, unknown sex=6), specifically focusing on the age range of 18–89 years to align the age groups with

Table 1 Prevalence of cerebral aneurysms in males and females: a comparison of the recent hospital-based data recorded in RAH from 2011 to 2019 with the autopsy data published before from 1761 to 1938

Sex	N=173, cases with or without cerebral aneurysms recorded in RAH from 2011 to 2019	N=1127 aneurysm cases (from 1761 to 1938) recorded in 407 publications[14]
Sex not defined	0	28
Female	90	573
Male	83	526
Female-to-male sex ratio	1.08	1.09

*This study investigated the prevalence of cerebral aneurysms in both males and females, drawing a comparison between recent hospital-based data recorded in RAH (2011-2019) and autopsy data published between 1761 and 1938.
N, Number of aneurysmal cases; RAH, Royal Adelaide Hospital; RAH, Royal Adelaide Hospital.

the RAH recorded data from 2011 to 2019 (online supplemental file 2, figure 2C,D). The similarities of SD (15.45) of those 853 cases (from 1761 to 1938) and the cases that were recorded from 2011 to 2019 in RAH (13.12 years) validated the comparability of our data and the findings (online supplemental file 2). The values of the 25th, 50th and 75th percentiles, as well as the minimum and maximum observed ages of patients with aneurysms, remained relatively stable from 1761 to 1938 (figure 3A). Some of these percentile values increased slightly as life expectancy extended from 1761 to the 21st century (figure 3B). Therefore, the SD, and age distribution of adult patients with ruptured or diagnosed CAs presented in the 2011–2019 dataset were consistent with those cases reported before 1938, indicating persistence of a pattern (table 1, figures 2 and 3). Specifically, aneurysms are being frequently diagnosed in individuals aged 30–60 years, and this age range has remained relatively unchanged over the past 260 years (table 1, figures 2 and 3). Forty-nine out of 1127 cases recorded across 407 publications from 1761 to 1938 seemed not to have information about the location of aneurysms in the CBAN, however, 818 out of 1078 identified aneurysms (76%) were in the ICA, MCA and AcomAC regions and rest of them were in the vertebrobasilar region (online supplemental file 1). The location and distribution pattern of aneurysms from 102 patients recorded in RAH was consistent with 1078 cases recorded from 1761 to 1938 (online supplemental files 1–3).

In the type 2 dataset, a total of 135 aneurysms were identified in 102 individuals, with ages ranging from 18 to 83 years, across various components of CBAN (figure 2D and online supplemental file 3). Among these aneurysms, 38 (28.14%) were detected in the right MCA region, while 17 (12.6%) were in the right ICA region. In comparison, the left MCA and ICA regions had 27 (20%) and 12 (8%) aneurysms, respectively, which appeared to be lower in number compared with the right MCA and ICA regions. When considering the distribution of aneurysms based on territory, 55 out of 135 aneurysms (40.74%) in 50 patients were found in the right ICA and MCA territories, whereas 39 out of 135 aneurysms (28.88%) in 37 patients were detected in the left ICA and MCA regions (online supplemental file 3). Out of the 102 individuals with aneurysmal cases included in the study, 33 (24.44%) had aneurysms located in the AcomAC region, accounting for 33 out of the total 135 aneurysms. An additional 5.9% of the total aneurysms (8 out of 135 aneurysms) were found in the vertebral and basilar arterial regions, as indicated in the online supplemental file 3. A majority of the CAs, 127 out of the total 135 (94% of the total), were in the MCA, ICA and AComAC regions (online supplemental file 3). Some cases had multiple aneurysms, for example, 2 cases had right ICA and MCA aneurysms, while 10 cases had left ICA and MCA aneurysms (online supplemental file 3).

There were no significant differences between male and female patients affected with CAs in all 1229 cases analysed in those two datasets (χ^2 statistic=0.83, p≥0.36) (table 1). The sex, age of occurrence and location of CAs appear to have remained steady over the past 260 years across all age groups (table 1 and online supplemental file 2, and figure 3). The mode, mean and median age and SD of patients with ruptured or diagnosed CAs studied from 2011 to 2019 in RAH matched well with the cerebral aneurysmal cases recorded in the past considering the difference in life expectancy between the two time periods studied (1761–1938 and 2011–2019) (figure 3 and table 1).

DISCUSSION

The age and locations at which CAs occur in the CBAN has not changed over past 260 years (figures 1–3, table 1) despite the life expectancy has increased over time worldwide and the progress in medicine. In the past people had shorter life span on average, and yet the CAs occurred at the same ages as they do now.[15] The life expectancy recorded at below 50 years in 1940 and even below 40 years in 1850 was way lower compared with the one recorded above 80 years of age since the year 2000 in Australia.[15] A separate analysis was done for 853 out of the 1127 CAs recorded[14] before 1938 focusing on the age range of 18–89 years to align the age group with the currently RAH recorded data from 2011 to 2019, since there were no aneurysmal cases of children (age <18

years) in the RAH dataset. In Adelaide, there is a separate hospital for children where aneurysmal cases would have been treated, but the authors had no access to these data (online supplemental file 3). RAH is a general hospital, thus individuals aged 18 years and less are not admitted. Current study compared the cases of CAs diagnosed by CTA imaging technique (from 2011 to 2019) with those verified by surgery and autopsy,[14] since there were no cerebral angiogram facilities in early years (ie, before 1938). The cases of aneurysms are commonly diagnosed, when the patients are presented at medical centres after attacks of stroke.[16] CAs in the past seemed to be ruptured and complicated as early as 18 months of age and as late as 89 years of age with a wide range of age (online supplemental file 1). The findings suggested that the change in lifestyle or medical practice had no effect at the age/time of formation of CAs in general population. Clinical investigation of lipid profiles in patients commenced after 1950,[17] and they started attributing arterial diseases and aneurysms to the hyperlipidaemia, however, the manifestation of occurrence of aneurysms by age in the past 260 years seems not to be different from the current age of occurrence. Although the lifestyle and the external influences, including medical practice, changed over more than two centuries, aneurysms still occur at approximately the same age. Therefore, aneurysms occur and rupture on their own internal circumstances and are not related to the diet, environmental and external factors.[18] The most likely internal factor is the severity of the variation on the segments of CBAN that adversely affects the haemodynamics resulting in the formation of aneurysms.[1 19] The condition of the arterial wall should not have changed over the last 260 years and that seems to be less significant than the variation in the components of CBAN. The segmental and communicating arteries play a crucial role in dampening the systolic pressure within the CBAN and reducing the likelihood of aneurysm formation.[1 19] The severity of arterial variation can have negative effects on the blood flow dynamics through the variant segment of the component of the CBAN.[1 19] The incidence of CAs is about 3.3% in the general population and may not be diagnosed, until they get enlarged as the size of the aneurysm <3 mm in diameter can be missed.[20] Imaizumi *et al* found that the prevalence rate of CAs was 4.32% in Japan.[12] The incidence rate of CAs in childhood (age <18 years) has been reported to be 0.5%–4.6%, which is almost as common as the incidence rate observed among adults.[13] Treating cases of CAs with a diameter <3 mm requires careful consideration, as pre-existing small aneurysms of ≤3 mm could rupture, resulting in spontaneous SAH.[21] The majority of CAs are detected only when they cause a stroke or other pathological effect (eg, compression of the optic tract).[4] Individuals >18 years are no longer considered children.[6 13]

Most of the symptomatic cases of CAs in the paediatric age group were observed in older children (15+ years),[13] and only complicated cases of CAs were generally diagnosed and reported.[22 23] If the incidence of childhood CAs described (ranges from 0.17% to 4.6%)[24] is corrected for number of years lived, it would be 18.4% of the total aneurysmal cases among adults. The adult patients included in CAs studies ideally have an age range of 18 years and above, which can include individuals up to the age of 100 years.[12 15] In contrast, the childhood group included in aneurysmal studies typically ranges from birth up to 18 years of age and a few studies have categorised patients who are 18 years or older under the adult group.[6 13] When the age range, 0–18 years and 19–100 years is considered, the incidence of childhood CAs, that should be multiplied by 5 times to correct for the number of years lived, can be comparable to that in adults because the childhood period of life is much shorter than the adulthood. Therefore, the age range of adult group (≥20 years up to 100 years) included in the CAs and stroke studies would be about 5 times more than the age range of children (ie, ≤18 years).[22 23] That means adults have 5 times more years to develop CAs compared with children. Therefore, the incidence of childhood CAs per year is almost equivalent to adult.[21 25] Hence, CAs could develop in early childhood in the presence of a significantly variant component of cerebral arterial anatomy,[1 2] and it could take years for them to balloon before becoming symptomatic and being observed in a tertiary medical centre. The overall pattern of location and distribution of childhood CAs was similar to adult as they commonly occurred in ICA, MCA and AcomAC regions.[3] Therefore, the development of CAs is not age related and found to be prevalent in all age ranges.[10 12 13 26] CAs may not always be associated with the advanced age, history of smoking, drinking alcohol but start forming as early as in the childhood in the presence of variant components of cranial blood vessels.[27] The mean age at which people were affected by CAs was reported to be 55–57 years of age in a study conducted using 1085 aneurysmal cases from 2008 to 2016.[28] There are a few reports of CAs published between 1938 and 2011 that could have been compiled for statistical analyses. However, their inclusion into this study would not have changed its basic conclusions, that is, large age range and no change through time in the occurrence of CAs.

Ultrasonographic video screening by placing the probe in the fontanelles of babies before they close has been found to be safe and effective in studying brain vessels[26 29] and can be incorporated as a screening tool to detect variations in intracranial vessels that could predispose to the development of CAs later in life. One illustration of such possibility is that individuals with the left and right ACA proximal segment diameter ratio >1.4 have a 27-fold increased risk of developing CAs in the AcomAC region.[1] Parents of children found to have variations in CBAN could be advised to schedule follow-up screening periodically, especially if a more affordable and convenient technology

for detecting brain aneurysms becomes available. The current screening recommendation is based on the congenital variations of segments of CBAN, but such variations could occur later on life in cases of pathology like atherosclerosis and could cause aneurysms. Future studies to test the association of presence of anatomical variations in CBAN in infancy and future risk of both unruptured and ruptured intracranial aneurysms in adulthood are recommended.

The estimated cost of a single stroke is approximately $A300 000 in Australia.[9] With a haemorrhagic stroke incidence of 10 per 100 000, the total cost amounts to $A45 million per year in a city like Adelaide,[1] South Australia, which has a population of 1.5 million. Regular screening for individuals with significantly variant brain arteries identified, representing 50% of the population, once every 5 years, and assuming the cost of a single CTA or magnetic resonance angiogram is about $A100 each, the total screening cost would be $A1.5 million per year, that means 30 times reduction in cost of strokes. Additionally, the government would receive millions of dollars in return as tax revenue from working individuals who would survive with little to no disability from potential strokes resulting from aneurysms. This study was not designed to examine the characteristics of aneurysms, but the focus was on the distribution of aneurysms in different segments of CBAN, trend of occurrence of aneurysms over the past 260 years and the comparison of CAs in all age ranges.

Limitations

The insufficient data on the lack of personal and family history, history of smoking, lipid profile and blood pressure are limitations of this study. A larger survey and a prospective study could be conducted. A prospective study could involve using ultrasound techniques to identify variations in brain vessels among infants.

CONCLUSION

Brain arterial aneurysms can develop early in the presence of variant arterial components. Screening children under 24 months using transcranial ultrasonography for variant cerebral arteries may be practical. Those with variations should undergo periodic tests for aneurysms, aiming to prevent some haemorrhagic strokes if an affordable and convenient technology for detecting brain aneurysms becomes available.

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Contributors AB is responsible for the overall content as the guarantor and accepts full responsibility for the work and the conduct of the study, has access to the data ands control the decision to publish. AB conceived the idea, collected and analysed both sets of data, took pictures, recorded videos, contributed to conceptualisation, prepared and drafted the manuscript. JK conceived the idea, contributed to the concept, aided in data interpretation, editing and the revision of the manuscript and approving the article. JT conceived the idea, contributed to the concept, aided in data interpretation, editing and the revision of the manuscript and approving the article. MH conceived the idea, masterminded and helped in statistics, data analysis and interpretation, editing and approving the article.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval The Human Ethics permit (approval number: H2014176, Research Ethics Committee, Office of Research Ethics, Compliance and Integrity, Faculty of Health Sciences, University of Adelaide) granted permission to access and use the de-identified dataset from the Carestream data registry system (Vue-RIS-version-11.0.14.35) for research. The patients gave their consent to use their clinical information for research activities.

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Supplementary file 1: contains type 1 data

Manuscript title: The trend of cerebral aneurysms over the past two centuries: Need for early screening - An observational study.

Abbreviations: PcomA= posterior communicating artery, ICA=internal carotid artery, BA=basilar artery, AcomA=anterior communicating artery, MCA=middle cerebral artery, ACA=anterior cerebral artery, PCA=posterior cerebral artery, SCA=superior cerebellar artery,

AICA=anterior inferior cerebellar artery, VA=vertebral artery, CBAN=cerebral basal arterial network (artery involved not known), PICA=posterior inferior cerebellar artery. McDonald & Korb 1939=McDonald CA, Korb M. Intracranial aneurysms. Archives of neurology and psychiatry (Chicago) 1939; 42(3): 298-328.)

age in years	age range in years	sex, m=male, f=female	side affected	arteries involved	status of aneurysms; ruptured=y, not ruptured=n	arterial condition	year of aneurysm detected
60	51-60	m	bilateral	PcomA	n	Vessels ruptd, with deposit on inner lining	1761
52	51-60	f	undefined	ICA	y	no information available	1778
64	61-70	f	bilateral	ICA	n	no information available	1779
20	16-20	f	midline	BA	y	no information available	1814
20	16-20	f	midline	BA	y	no information available	1815
57	51-60	m	midline	AcomA	y	Calcareous deposits on coats of vessels	1825
57	51-60	m	right	ACA	y	Coats of aneurysm thick	1825
		m	midline	AcomA	y	not available	1825
59	51-60	f	midline	AcomA	y	no information available	1826
60	51-60	m	midline	BA	y	Middle layer of sac, cartilaginous	1826
		m	right	MCA	y	no information available	1826
19	16-20	m	left	MCA	y	no information available	1827
50	51-60	f	left	PcomA	y	no information available	1827
45	41-50	m	left	MCA	y	no information available	1827
35	31-40	m	midline	BA	n	Carotid and vertebral arteries normal	1828
21	21-30	f	midline	BA	y	Calcareous deposits on vessels	1828
24	21-30	m	left	VA	y	Arteries diseased, in some places cartilaginous	1829
			midline	BA		Coats of vessels cartilaginous	1829
60	51-60	m	right	MCA	y	wall thin but firm	1831
63	61-70	f	left	MCA	y	No bone or other appearance of disease	1831
60	51-60	m	right	MCA	y	Sac with thin, firm parietes	1832
42	41-50	f	right	ICA	y	no information available	1833
54	51-60	m	midline	BA	y	no information available	1833
36	21-30	f	left	ACA	n	middle layer thick	1834
			left	ICA	n	no information available	1834
			right	VA	n	no information available	1835
68	61-70	m	midline	BA	n	Yellow plaques on surface	1836
20	16-20	f	midline	BA	n	no information available	1837
59	51-60	m	midline	BA	y	Middle layer of artery cartilaginous	1837
60	51-60	m	undefined	ICA	y	no information available	1837
35	31-40	m	right	MCA	y	other vessels normal	1838
14	11-15	m	midline	BA	n	Middle layer of wall thickened	1842
20	16-20	f	undefined	PCA	n	no information available	1842
49	41-50	m	left	ICA	y	Vessels thickened	1842
42	41-50	m	midline	BA	y	Arteries atheromatous	1844
54	51-60	m	midline	BA	n	no information available	1844
20	16-20	f	right	PcomA	y	no information available	1846
47	41-50	m	midline	BA	y	no information available	1846
58	51-60	m	midline	BA	y	na	1846
58	51-60	m	midline	BA	y	no information available	1846
64	61-70	f	right	PcomA	y	no information available	1846
34	31-40	m	left	PcomA	y	no information available	1847
35	31-40	m	left	ICA	y	no information available	1847
52	51-60	f	left	ICA	y	healthy arteries	1848
		m	midline	BA	n	no information available	1848
33	31-40	m	midline	BA	n	no information available	1849
35	31-40	m	midline	BA	y	Other arteries healthy	1849
35	31-40	f	undefined	ICA	y	No calcareous deposit in cerebral vessels	1849
		m	undefined	VA	n	Calcareous deposit in wall of sac	1849
18	16-20	f	left	AcomA	n	No fatty atheromatous changes in arteries	1850
36	21-30	m	midline	BA	y	Other vessels without changes	1850
70	61-70	f	left	ICA	n	no information available	1850
20	16-20	f	undefined	PCA	n	no information available	1851
21	21-30	f	midline	AcomA	n	no information available	1851
51	51-60	m	left	MCA	y	no information available	1851
38	31-40	m	midline	BA	n	no information available	1851
45	41-50	m	midline	BA	n	no information available	1851
63	61-70	m	undefined	ICA	n	no information available	1851
		m	midline	BA	n	no information available	1851
		m	midline	BA	n	no information available	1851
		f	undefined	MCA	y	no information available	1851
53	51-60	f	midline	BA	y	no information available	1853
55	51-60	m	right	PCA	y	no information available	1853
57	51-60	m	right	MCA	n	Vessels very atheromatous	1853
70	61-70	f	midline	BA	n	no information available	1853
		m	left	MCA	y	Arteries not atheromatous	1853
35	31-40	m	midline	BA	n	no information available	1856
40	31-40	f	left	PCA	n	Vessels thin but healthy	1856
52	51-60	f	right	ICA	y	Middle coat thickened	1857
47	41-50	f	left	ICA	y	no information available	1858
54	51-60	m	midline	BA	n	Vertebral arteries thickened	1858
58	51-60	m	right	ScA	n	Atheroma	1858
60	51-60	f	midline	AcomA	y	Vessels thickened and ripid	1858
17	16-20	f	left	MCA	y	Embolic	1859
62	61-70	f	left	MCA	y	no information available	1859
34	31-40	m	midline	BA	y	Healthy vessels	1859
35	31-40	f	left	ACA	y	Healthy vessels	1859
43	41-50	f	midline	BA	y	Atheroma	1859
58	51-60	m	left	MCA	y	Atheroma	1859
16	16-20	m	left	ICA	n	no information available	1860
24	21-30	f	midline	BA	y	embolic	1860
47	41-50	f	midline	BA	n	Plates in coats of aneurysm	1860
24	21-30	m	right	MCA	y	Walls of sac calcareous	1861
14	11-15	m	left	MCA	y	Walls of neck thick and atheromatous no disease of other vessels	1862
42	41-50	m	midline	BA	y	Vessels otherwise healthy	1862
48	41-50	f	midline	BA	n	no information available	1862
58	51-60	m	midline	BA	n	Atheroma	1862
60	51-60	m	left	MCA	y	Wall of sac hard and cretaceous	1862
68	71-80	f	midline	AcomA	n	healthy vessels	1862
28	21-30	m	midline	BA	y	Healthy vessels	1864
37	31-40	m	midline	BA	y	Other vessels slightly atheromatous	1864
			undefined	AICA		Atheroma	1864
16	16-20	m	left	ICA	n	Vessels healthy	1865
24	21-30	m	left	MCA	y	Soft arteries	1865
30	21-40	m	midline	BA	y	No atheroma	1865
43	41-50	f	left	ICA	y	Walls atheromatous	1865
46	41-50	f	left	ACA	n	Vessels very atheromatous	1865
49	41-50	f	midline	AcomA	y	Other arteries healthy	1865
51	51-60	f	midline	BA	y	Arteries not diseased	1865
53	51-60	m	left	MCA	y	Walls not atheromatous	1865
58	51-60	f	right	MCA	y	no information available	1865
		m	left	ACA	y	no information available	1865
21	21-30	f	left	MCA	y	No disease of vessels	1866
61	61-70	f	left	VA	y	no information available	1866
27	21-30	f	left	ICA	y	Arteries thickened	1867
26	21-30	f	left	MCA	y	no information available	1867
71	71-80	f	right	MCA	y	No atheroma	1867
13	11-15	m	right	MCA	y	Rest of arteries healthy	1868
24	21-30	f	left	ICA	y	no information available	1868
34	31-40	f	left	MCA	n	Walls of aneurysmatheromatous; vessels at base not diseased	1868
36	31-40	f	midline	BA	y	Old endocarditic, questionable embolic origin	1868
40	31-40	m	left	ACA	y	Small atheromatous patches on wall	1868
40	31-40	m	left	MCA	y	Vessels normal	1868
50	41-50	f	left	MCA	n	Thick and opaque, but not materially diseased	1868
53	51-60	f	left	PcomA	y	Slightly atheromatous	1868
56	51-60	f	right	MCA	n	Arteries sclerotic, with atheromatous plates	1868
56	51-60	m	left	MCA	n	Vessels very atheromatous	1868
59	51-60	f	midline	BA	y	Atheroma	1868
60	51-60	f	right	MCA	y	Vessels very atheromatous	1868
14	11-15	m	left	ICA	y	Other vessels healthy	1869
19	16-20	m	left	VA	y	no information available	1869
30	21-30	m	left	MCA	y	no information available	1869
41	41-50	f	right	MCA	y	no information available	1869
48	41-50	f	left	MCA	y	Atheroma	1869
56	51-60	m	right	ICA	y	Several patches ofdegeneration onbasilar artery	1869
61	61-70	f	midline	BA	n	Vessels atheromatous	1869
12	11-15	f	right	MCA	y	Embolic occlusion (endocarditis)	1870
13	11-15	m	right	MCA	y	Other vessels healthy; embolic origin of aneurysm	1870
15	11-15	m	right	MCA	y	Embolic origin	1870
17	16-20	f	left	ACA	y	Vessels healthy	1870
20	16-20	m	right	MCA	y	Embolic origin	1870
28	21-30	f	left	MCA	n	Vessel plugged by yellow fibrin (vegetations on aortic valves)	1870
28	21-30	m	midline	BA	n	Remaining vessels healthy	1870
28	21-30	f	right	MCA	y	Syphilitic lesions	1870
35	31-40	m	undefined	PCA	n	no information available	1870
37	31-40	m	midline	BA	y	Calcareous degeneration of coats of vessel	1870
40	41-50	m	midline	BA	y	no information available	1870
50	41-50	f	left	PCA	y	Slight atheromatous patches	1870
60	51-60	m	left	VA	y	Vessels diseased	1870
63	61-70	m	right	VA	y	Atheroma	1870
54	51-60	m	midline	AcomA	y	Atheromatous	1871
		f	left	MCA	y	Arteries at base highly Atheromatous	1871
29	21-30	m	midline	BA	n	Other arteries at base atheromatous	1872
43	41-50	m	left	VA	y	Slight atheromatous changes	1872
61	61-70	f	midline	BA	y	Vessels atheromatous	1872
20	16-20	f	right	PcomA	y	Embolic	1873
20	16-20	m	undefined	CBAN	y	Embolic	1873
24	21-30	m	undefined	CBAN	y	Embolic arachnoiditis	1873
27	21-30	m	undefined	CBAN	y	Perforated embolized wall of small aracb noid artery	1873
40	31-40	m	left	MCA	y	Embolic	1873
68	61-70	m	midline	AcomA	n	Wall thick ; other vessels healthy	1873
		m	midline	BA	n	Vessels thickened	1874
24	21-30	m	undefined	ICA	n	no information available	1874
33	31-40	m	left	ICA	n	Marked arteriosclerosis	1875
40	31-40	f	right	ICA	n	Walls of sac partly calcified	1875
43	41-50	m	right	MCA	y	no information available	1875
45	41-50	m	midline	AcomA	y	Arteries slightly atheromatous	1875
45	41-50	m	left	MCA	y	Vessels normal	1875
46	41-50	m	bilateral	ICA	n	Intimal arteriosclerosis	1875
53	51-60	f	left	ICA	y	Walls thick and atheromatous	1875
56	51-60	m	left	VA	n	no information available	1875
60	51-60	f	undefined	SCA	y	Intimal atheroma of vessels	1875
60	61-70	f	midline	AcomA	n	Vessels atheromatous	1875
34	31-40	f	right	MCA	y	no information available	1876
34	31-40	m	left	MCA	n	no information available	1876
41	41-50	m	midline	AcomA	y	Rest of arteries free of atheroma	1876
50	41-50	f	right	MCA	y	Atheroma	1876
63	61-70	f	right	ICA	y	no information available	1876
16	16-20	m	midline	BA	n	no information available	1877
18	16-20	f	right	MCA	n	no information available	1877
20	16-20	m	midline	AcomA	y	No other disease of vessels	1877
22	21-30	f	left	ICA	y	Vessels healthy; probably embolic	1877
40	31-40	f	right	MCA	y	Healthy vessels	1877
40	31-40	m	left	MCA	y	Vessels at base healthy	1877
42	41-50	m	right	MCA	y	Arteries tortuous andsmall in caliber; deposits of calcareous degeneration	1877
53	51-60	f	midline	BA	n	no information available	1877
12	11-15	m	right	PCA	y	Embolic (endocarditis)	1878
30	21-30	m	left	ICA	n	Thickening of vessels , with syphilitic infil tration of small cells	1878
47	41-50	f	right	MCA	y	Very atheromatous	1878
50	41-50	m	right	ACA	n	All arteries and aneurysm white and opaquemicroscopic syphilitic changes of Heubner	1878
72	71-80	f	left	MCA	y	Vessels atheromatous	1878
20	16-20	m	left	MCA	n	Not atheromatous	1880
36	31-40	m	left	VA	y	Thickened walls: endarteritis	1880
39	31-40	m	left	MCA	n	no information available	1880
40	31-40	f	midline	AcomA	y	Atheroma	1880
44	41-50	m	midline	BA	y	no information available	1880
51	51-60		left	MCA	y	Stiff and atheromatous	1880
57	51-60	m	midline	BA	y	Atheromatous vessels at base	1880
73	71-80	f	midline	BA	y	Atheromatous	1880
12	11-15	m	left	MCA	y	Wall of sac atheroma tous; other vessels healthy	1881
40	31-40	f	left	PcomA	y	Healthy vessels	1881
44	41-50	m	midline	BA	y	no information available	1881
50	41-50	f	midline	AcomA	y	no information available	1881
73	71-80	f	right	ICA	n	Very atheromatous	1881
80	71-80	f	right	PcomA	n	Wall thickened	1881
18	16-20	m	midline	BA	y	no information available	1882
16	16-20	m	midline	AcomA	y	Healthy	1883
40	31-40	m	midline	BA	n	Atheroma	1883
		f	undefined	ICA	y	no information available	1883
61	61-70	m	left	VA	n	Fatty degeneration of intima	1884
		m	undefined	CBAN	y	Embolic	1884
28	21-30	f	left	MCA	y	Atheroma	1885
40	31-40	m	left	MCA	n	Calcareous clot in sac	1885
21	21-30	f	left	ICA	n	Syphilitic	1886
22	21-30	f	left	ICA	n	Walls hard; no atheromatous degeneration	1886

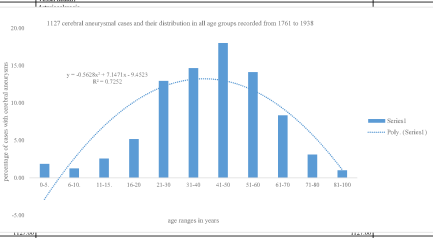
27	21-30	m	midline	BA	y	Syphilitic	1886					
28	16-20	f	left	MCA	n	Embolic	1887					
29	11-15	m	right	VA	y	Embolic (endocarditic)	1887					
30	21-30	m	right	MCA	y	Embolic (endocarditic)	1887					
31	31-40	m	right	ICA	n	no information available	1887					
36	31-40	m	midline	BA	y	No embolism or atheroma	1887					
40	31-40	f	right	MCA	y	No embolism or atheroma	1887					
43	41-50	f	right	PCA	n	Arteries free of atheroma	1887					
49	41-50	f	undefined	CBAN	y	Embolic (endocarditic)	1887					
60	51-60	f	left	MCA	y	no information available	1887					
			left	VA	n	Arteriosclerosis	1887					
			undefined	VA		Arteriosclerosis	1887					
			undefined	VA		Arteriosclerosis	1887					
53	51-60	f	midline	BA	y	no information available	1888					
26	21-30	m	midline	BA	n	Septic endocarditis	1889					
43	41-50	m	midline	AcomA	n	no information available	1889					
51	51-60	m	midline	AcomA	y	Arteries free of atheroma	1889					
56	51-60	f	midline	AcomA	n	Arteriosclerosis	1889					
6	6-10.	m	right	VA	y	Septic embolus	1890					
13	11-15	m	right	PCA	n	Septic embolus endocarditis	1890					
14	11-15.	m	right	MCA	n	Septic embolus endocarditis	1890					
15	11-15.	m	right	MCA	n	Septic embolus endocarditis	1890					
45	11-15.	f	bilateral	ICA	y	Septic embolus endocarditis	1890					
13	11-15.	f	right	MCA	y	Septic embolus endocarditis	1890					
16	16-20	f	right	MCA	y	Septic embolus	1890					
17	16-20	m	left	ICA	n	Septic embolus endocarditis	1890					
18	16-20	m	right	MCA	y	Septic embolus	1890					
25	21-30	f	right	MCA	n	Septic embolus endocarditis	1890					
35	21-30	m	left	MCA	n	Septic embolus endocarditis	1890					
23	21-30	f	left	MCA	y	Atheroma	1890					
25	21-30	f	right	MCA	y	Septic embolus endocarditis	1890					
25	21-30	m	right	MCA	y	Septic embolus endocarditis	1890					
51	31-40	m	right	MCA	y	Septic embolus	1890					
33	31-40	f	left	MCA	n	Septic embolus endocarditis	1890					
34	31-40	m	left	MCA	y	Atheroma	1890					
43	41-50	f	left	MCA	y	Atheroma	1890					
45	41-50	m	left	MCA	y	Atheroma	1890					
50	41-50	m	left	MCA	y	Septic embolus	1890					
56	51-60	m	right	ICA	n	Atheroma	1890					
60	61-70	m	right	ICA	n	Atheroma	1890					
60	51-60	f	midline	BA	n	Atheroma	1891					
35	31-40	m	midline	BA	y	Other vessels healthy	1892					
47	41-50	m	left	MCA	n	No atheroma	1893					
7	6-10.	m	midline	BA	y	no information available	1894					
10	6-10.	f	left	VA	y	no information available	1894					
14	11-15.	m	left	VA	y	no information available	1894					
25	21-30	m	midline	BA	y	no information available	1894					
26	21-30	f	right	ICA	y	Soft arteries	1894					
26	21-30	m	right	ICA	y	no information available	1894					
28	21-30	f	left	MCA	y	no information available	1894					
28	21-30	m	midline	AcomA	y	no information available	1894					
29	21-30	f	left	MCA	y	no information available	1894					
30	21-30	f	right	MCA	y	no information available	1894					
31	31-40	m	midline	AcomA	y	no information available	1894					
32	31-40	f	left	MCA	y	no information available	1894					
32	31-40	f	midline	BA	y	no information available	1894					
32	31-40	m	midline	BA	y	no information available	1894					
36	31-40	f	midline	PcomA	y	no information available	1894					
36	31-40	m	left	ACA	y	no information available	1894					
40	31-40	f	midline	BA	y	no information available	1894					
40	31-40	m	midline	AcomA	y	no information available	1894					
41	41-50	m	right	VA	y	no information available	1894					
42	41-50	f	left	ICA	y	no information available	1894					
42	41-50	m	left	MCA	y	no information available	1894					
42	41-50	m	midline	BA	y	no information available	1894					
43	41-50	f	right	ICA	y	no information available	1894					
43	41-50	m	left	VA	y	no information available	1894					
43	41-50	m	left	MCA	y	no information available	1894					
43	41-50	m	right	MCA	y	no information available	1894					
43	41-50	m	undefined	CBAN	y	no information available	1894					
44	41-50	f	midline	AcomA	y	no information available	1894					
45	41-50	f	left	MCA	y	no information available	1894					
45	41-50	f	midline	AcomA	y	no information available	1894					
45	41-50	m	left	ICA	y	no information available	1894					
46	41-50	f	midline	BA	y	no information available	1894					
46	41-50	m	right	MCA	y	no information available	1894					
46	41-50	m	right	MCA	y	no information available	1894					
48	41-50	f	right	ICA	y	no information available	1894					
48	41-50	f	left	VA	y	no information available	1894					
49	41-50	f	midline	PcomA	y	no information available	1894					
50	41-50	f	right	MCA	y	no information available	1894					
50	41-50	m	left	MCA	y	no information available	1894					
51	51-60	f	right	MCA	y	no information available	1894					
52	51-60	f	left	MCA	y	no information available	1894					
53	51-60	f	left	MCA	y	no information available	1894					
53	51-60	f	midline	AcomA	y	no information available	1894					
54	51-60	f	midline	AcomA	y	no information available	1894					
54	51-60	m	right	MCA	y	no information available	1894					
55	51-60	f	right	ICA	y	no information available	1894					
55	51-60	m	left	VA	y	no information available	1894					
55	51-60	m	midline	BA	y	no information available	1894					
56	51-60	f	left	MCA	n	no information available	1894					
56	51-60	f	right	MCA	y	no information available	1894					
57	51-60	f	right	ACA	y	no information available	1894					
57	51-60	f	midline	AcomA	y	no information available	1894					
60	51-60	f	left	VA	y	no information available	1894					
60	51-60	f	left	ACA	y	no information available	1894					
60	51-60	f	left	ACA	y	no information available	1894					
60	51-60	f	left	MCA	y	no information available	1894					
61	61-70	f	midline	BA	y	no information available	1894					
62	61-70	m	right	ICA	y	no information available	1894					
62	61-70	f	midline	AcomA	y	no information available	1894					
63	61-70	f	left	ACA	y	no information available	1894					
63	61-70	f	midline	AcomA	y	no information available	1894					
64	61-70	f	left	ICA	y	no information available	1894					
64	61-70	f	midline	AcomA	y	no information available	1894					
65	61-70	f	left	MCA	y	no information available	1894					
67	61-70	f	left	ICA	y	no information available	1894					
67	61-70	f	right	ICA	y	no information available	1894					
68	61-70	f	left	ICA	y	no information available	1894					
70	61-70	f	right	ICA	y	no information available	1894					
72	71-80	f	left	VA	y	no information available	1894					
72	71-80	f	right	ICA	y	no information available	1894					
73	71-80	f	left	MCA	y	no information available	1894					
73	71-80	f	right	VA	y	no information available	1894					
73	71-80	f	right	VA	y	no information available	1894					
73	71-80	f	midline	AcomA	y	no information available	1894					
79	71-80	f	midline	BA	y	no information available	1894					
80	71-80	f	right	ACA	y	no information available	1894					
81	81-100	f	left	MCA	y	no information available	1894					
86	81-100	m	midline	CbanA	y	no information available	1894					
		m	midline	CBAN	y	no information available	1894					
21	21-30	m	right	ICA	y	other vessels healthy	1895					
29	21-30	m	midline	BA	y	no information available	1895					
34	31-40	f	left	ICA	y	Wall of aneurysm had two patches of atheroma	1895					
40	31-40	m	midline	BA	n	no information available	1897					
43	41-50	f	right	MCA	y	no information available	1897					
50	41-50	f	left	MCA	y	no information available	1897					
51	51-60	m	left	MCA	y	no information available	1897					
60	61-70	f	bilateral	ICA	n	no information available	1897					
28	21-30	m	midline	BA	n	no information available	1898					
54	51-60	m	midline	BA	n	no information available	1898					
70	61-70	f	right	MCA	y	Extensive sclerosis with atheromatous plaques	1898					
29	21-30	m	midline	BA	n	Syphilitic	1899					
68	61-70	m	left	VA	n	Vessels atheromatous	1900					
10	6-10.	m	left	pcal	y	Embolic (endocarditis)	1901					
11	11-15.	f	right	pcal	y	Embolic (endocarditis)	1901					
27	21-30	f	left	MCA	y	normal vessels	1901					
28	21-30	m	midline	BA	y	no information available	1901					
32	31-40	f	right	MCA	y	Embolic (endocarditis)	1901					
50	41-50	f	right	MCA	y	Atheroma	1901					
76	71-80	f	right	MCA	y	no information available	1901					
29	21-30	f	right	PcomA	y	normal vessels	1902					
34	31-40	m	undefined	CBAN	y	Syphilis	1902					
45	41-50	f	left	ICA	y	Wall of left internal carotid artery thickened	1902					
27	21-30	f	right	ICA	y	healthy	1903					
39	31-40	f	right	MCA	y	Line of atheroma at point of aneurysm	1903					
64	61-70	f	right	PcomA	y	Syphilis	1903					
27	21-30	m	midline	AcomA	y	Walls of other arteries healthy	1904					
40	31-40	f	right	ICA	y	no information available	1904					
65	61-70	f	right	ACA	n	Atheroma	1904					
30	61-70	f	midline	BA	y	Atheroma	1904					
66	81-100	m	bilateral	ICA	n	no information available	1904					
67	81-100	f	right	ICA	n	Atheroma	1904					
40	31-40	m	midline	BA	n	Syphilis	1905					
42	41-50	f	right	PcomA	y	Marked sclerosis	1905					
50	41-50	m	right	VA	n	Localized syphilitic periarteritis of aneurysm	1905					
51	51-60	f	right	VA	n	no information available	1905					
		m	midline	BA	n	Syphilis	1905					
6	6-10.	f	left	MCA	y	Mycotic (staphylococcic endocarditis)	1906					
28	21-30	m	midline	BA	y	no information available	1906					
60	61-70	f	bilateral	VA	n	Arteriosclerosis	1906					
			bilateral	ICA	n	no information available	1906					
14	11-15	m	left	BA	n	no information available	1907					
40	31-40	m	left	MCA	y	Vessels normal	1907					
48	41-50	f	left	ICA	n	no atheroma	1907					
50	41-50	f	left	MCA	y	Arteries healthy	1907					
57	51-60	m	midline	AcomA	y	no information available	1907					
58	51-60	f	bilateral	MCA	y	no information available	1907					
61	61-70	f	left	ICA	y	no information available	1907					
63	61-70	f	midline	AcomA	n	no information available	1907					
65	61-70	f	left	VA	n	Basilar artery tortuous and diseased	1907					
68	61-70	m	midline	BA	n	no information available	1907					
84	81-100	f	left	ICA	n	no information available	1907					
		f	right	ICA	n	no information available	1907					
			left	ICA	n	no information available	1907					
28	21-30	m	left	AcomA	y	Irregular, curtlage noon thickening of arteries at base	1908					
63	61-70	m	right	MCA	n	Atheroma	1908					
30	21-30	m	left	ACA	y	Thickening: syphi litic endarteritis obliterans	1909					
27	21-30	m	midline	BA	y	Other arteries normal	1910					
44	41-50	f	right	MCA	y	Arteriosclerosis	1910					
57	51-60	m	bilateral	VA	n	no information available	1910					
64	61-70	m	left	MCA	y	Arteriosclerosis	1910					
		f	left	VA	n	Thick and hard	1910					
25	21-30	f	right	AICA	y	Thickening of vessels	1911					
36	31-40	f	left	PCA	n	Aneurysm congenital	1911					
37	31-40	m	right	ICA	n	no information available	1911					
42	41-50	f	right	ICA	n	no information available	1911					
42	41-50	m	left	VA	y	Both cerebral arteries thickened	1911					
53	51-60	m	left	MCA	n	Syphilis	1911					
61	61-70	f	left	ICA	y	no information available	1911					
		m	midline	BA	y	Healthy vessels	1911					
21	21-30	f	right	ACA	y	Aneurysm congenital	1912					
22	21-30	m	right	MCA	y	Embolic (endocarditis)	1912					
28	21-30	f	right	AICA	y	Aneurysm congenital	1912					
33	31-40	m	undefined	CBAN	n	No arteriosclerosis	1912					
32	31-40	m	left	MCA	y	Aneurysm congenital	1912					
36	31-40	f	left	PICA	y	Walls healthy (probably embolic)	1912					
37	31-40	f	right	PCA	y	Embolic (endocarditis)	1912					
37	31-40	m	left	MCA	y	Aneurysm congenital	1912					
38	31-40	f	midline	AcomA	y	Aneurysm congenital	1912					
38	31-40	m	right	VA	y	Aneurysm congenital	1912					
40	31-40	f	left	MCA	y	Embolic (endocarditis)	1912					
42	41-50	f	left	ICA	y	Aneurysm congenital	1912					
42	41-50	m	left	MCA	y	Embolic (endocarditis)	1912					
42	41-50	m	left	VA	y	Vessels somewhathickened; "congenital" (?)	1912					
44	41-50	m	right	MCA	y	Arteriosclerosis	1912					
48	41-50	f	left	MCA	y	Aneurysm congenital	1912					
51	51-60	f	left	ACA	y	Syphilitic endarteritis of cerebral arteries	1912					

52	51-60	m	right	MCA	y	Syphilitic endarteritis obliterans of cerebral vessels	1912					
55	51-60	m	left	ICA	n	no information available	1912					
56	51-60	f	midline	BA	y	Aneurysm congenital	1912					
56	51-60	f	left	PICA	y	Aneurysm congenital	1912					
57	51-60	f	right	MCA	y	Arteries soft	1912					
63	61-70	f	right	MCA	y	Arteriosclerosis	1912					
6	6-10.	f	right	PICA	y	Atheroma	1913					
12	11-15.	m	left	MCA	n	no information available	1913					
18	16-20	m	left	PCA	y	Aneurysm congenital	1913					
30	21-30	f	right	PcomA	y	No arteriosclerosis	1913					
31	31-40	f	right	VA	n	Syphilis	1913					
33	31-40	m	undefined	CBAN	y	no information available	1913					
36	31-40	m	right	PCA	y	Syphilis, gummatous arteritis	1913					
37	31-40	m	right	VA	n	Endarteritis	1913					
40	31-40	f	left	ACA	y	Aneurysm congenital	1913					
41	41-50	m	left	ICA	n	no information available	1913					
42	41-50	f	left	MCA	y	Small sclerotic plaques	1913					
43	41-50	m	right	AICA	y	Still vessels	1913					
56	51-60	m	undefined	CBAN	y	Small greyish white flecks on vessels	1913					
58	51-60	f	right	MCA	y	Only slight thickening	1913					
72	71-80	m	right	MCA	y	Arteriosclerosis	1913					
72	71-80	m	right	MCA	y	Marked arteriosclerosis	1913					
		f	right	ICA	y	Atheroma	1913					
17	51-60	m	midline	BA	y	no information available	1914					
40	31-40	f	right	VA	y	proliferative endocarditis	1915					
84	81-100	m	left	AcomA	y	embolism (endocarditis)	1915					
		m	left	PICA	y	no information available	1915					
	6-10.	f	right	MCA	y	embolic	1916					
13	11-15.	f	left	ICA	y	embolic	1916					
18	16-20	f	right	MCA	y	embolic	1916					
16	16-20	m	left	MCA	y	embolic	1916					
19	16-20	m	left	PcomA	y	healthy artery	1916					
22	21-30	m	right	MCA	n	embolic	1916					
22	21-30	m	left	AcomA	y	conjenital aneurysm	1916					
24	21-30	m	right	MCA	y	conjenital aneurysm	1916					
28	21-30	m	left	ICA	y	conjenital aneurysm	1916					
31	31-40	m	right	MCA	y	embolic	1916					
36	31-40	f	left	PcomA	y	slight arterial degeneration	1916					
36	31-40	m	left	ICA	y	Atheroma	1916					
38	31-40	m	left	MCA	y	embolic	1916					
40	31-40	f	right	PcomA	y	no information available	1916					
40	31-40	m	right	ICA	y	healthy artery	1916					
41	41-50	m	right	AcomA	n	no atheroma	1916					
41	41-50	m	right	ACA	y	embolic	1916					
42	41-50	f	left	PICA	y	no atheroma	1916					
44	41-50	f	left	AcomA	y	no information available	1916					
46	41-50	f	right	AcomA	y	arterial degeneration	1916					
47	41-50	m	right	ICA	n	no information available	1916					
48	41-50	f	right	MCA	n	no information available	1916					
48	41-50	f	right	MCA	y	arterial degeneration	1916					
49	41-50	f	left	AcomA	y	Atheroma	1916					
49	41-50	m	left	AcomA	y	no information available	1916					
50	41-50	m	right	AcomA	y	no information available	1916					
51	51-60	m	right	MCA	y	Atheroma	1916					
53	51-60	m	left	AcomA	n	no information available	1916					
53	51-60	m	left	AcomA	y	Arteriosclerosis	1916					
55	51-60	m	right	AcomA	y	no information available	1916					
58	51-60	f	right	ICA	y	congenital aneurysm	1916					
60	51-60	f	right	MCA	y	embolic	1916					
60	51-60	m	right	MCA	y	Atheroma	1916					
67	61-70	f	left	MCA	y	embolic	1916					
70	61-70	f	left	ICA	n	no information available	1916					
72	71-80	f	left	AcomA	y	arterial degeneration	1916					
75	71-80	m	undefined	CBAN	n	no information available	1916					
86	81-100	m	right	MCA	n	no information available	1916					
			left	ACA	n	embolic	1916					
			midline	BA	n	embolic	1916					
			undefined	CBAN	n	embolic	1916					
			left	MCA	n	no information available	1916					
		m	left	ACA	y	embolic	1916					
		m	right	MCA	y	embolic	1916					
12	11-15.	f	right	AcomA	y	vessel healthy	1917					
53	51-60	f	bilateral	ICA	y	no information available	1917					
47	41-50	m	left	VA	y	vessel soft	1917					
53	51-60	f	right	ICA	n	no information available	1917					
53	51-60	m	midline	BA	n	Arteriosclerosis	1917					
21	21-30	m	right	MCA	y	no information available	1918					
26	21-30	f	right	ICA	y	no information available	1918					
53	51-60	f	left	MCA	y	Arteriosclerosis	1918					
54	51-60	m	left	PCA	y	no information available	1918					
85	81-100	f	right	MCA	y	other vessel normal	1918					
2	0-5	m	left	MCA	y	Focal areas of intimal thickening	1919					
14	16-20	m	bilateral	MCA	y	Vessels soft and thin	1919					
27	21-30	m	bilateral	MCA	y	No trace of syphilis or arteriosclerosis; microscopically a decrease in elastic fibers in media of vessels	1919					
28	21-30	m	right	VA	y	Slight intimal thickening of other vessels	1919					
35	31-40	m	right	MCA	y	atherosclerosis	1919					
38	31-40	f	right	PcomA	y	Vessels soft	1919					
39	31-40	f	left	AcomA	y	Scattered patches of intimal thickening	1919					
42	41-50	m	left	MCA	y	Arteriosclerosis	1919					
45	41-50	m	left	MCA	y	atherosclerosis	1919					
53	51-60	m	midline	BA	y	Arteriosclerosis	1919					
53	51-60	m	left	PcomA	y	Scattered patches of intimal thickening	1919					
53	51-60	m	midline	BA	y	Vessels thickened with plaques	1919					
56	51-60	m	right	PcomA	y	Scattered plaques	1919					
68	61-70	f	left	AcomA	y	Marked thickening of vessels	1919					
			right	MCA	y	Scattered thickening	1919					
			midline	AcomA	y	Scattered yellow patches on intima	1919					
28	21-30	m	midline	AcomA	y	no information available	1920					
29	21-30	f	midline	AcomA	y	no information available	1920					
36	31-40	m	midline	BA	n	no information available	1920					
37	31-40	f	midline	AcomA	y	no information available	1920					
50	41-50	f	midline	AcomA	y	no information available	1920					
53	51-60	m	midline	AcomA	y	Sclerosis of cerebral arteries	1920					
56	51-60	f	right	AcomA	y	no information available	1920					
67	61-70	f	midline	AcomA	y	no information available	1920					
6	6-10.	m	left	PCA	y	nfected embolus; other vessels normal	1921					
13	11-15.	m	midline	AcomA	y	no information available	1921					
20	16-20	m	undefined	CBAN	n	no information available	1921					
27	21-30	f	midline	AcomA	y	Atheroma	1921					
37	31-40	f	left	AcomA	n	Atheroma	1921					
37	31-40	m	left	AcomA	y	Medial sclerosis and Ibid. intimal thickening	1921					
39	31-40		undefined	CBAN	y	Arteriosclerosis	1921					
44	41-50	m	left	AcomA	y	Infected embolus; slight intimal thickening of other vessels	1921					
44	41-50	m	left	AcomA	y	Other vessels normal	1921					
46	41-50	f	midline	AcomA	y	Atheroma	1921					
46	41-50	m	left	AcomA	y	Atheroma	1921					
50	41-50	m	right	VA	n	no information available	1921					
52	51-60	f	left	AcomA	y	Atheroma	1921					
61	61-70		bilateral	VA	n	no information available	1921					
61	61-70	f	midline	AcomA	y	Atheroma	1921					
13	11-15.	m	bilateral	MCA	y	Coarctation of aorta	1922					
11	11-15.	f	bilateral	ICA	n	no information available	1922					
36	31-40	m	midline	BA	n	no information available	1922					
39	31-40	m	midline	AcomA	y	Embolism (endocarditis)	1922					
40	41-50	m	midline	BA	n	no information available	1922					
50	41-50	f	right	ICA	y	Arteriosclerosis	1922					
54	51-60	m	left	VA	n	Arteriosclerosis	1922					
16	16-20	f	left	MCA	y	Mycotic embolism	1923					
18	16-20	f	left	AcomA	y	Mycotic embolism	1923					
23	21-30	m	right	MCA	y	Embolic (endocarditis)	1923					
22	21-30	m	left	PICA	y	no information available	1923					
24	21-30	m	right	MCA	y	Embolic (endocarditis)	1923					
25	21-30	m	undefined	CBAN	y	no information available	1923					
29	21-30	m	left	MCA	y	Embolic (endocarditis)	1923					
29	21-30	m	left	MCA	y	Embolic (endocarditis)	1923					
31	31-40	m	right	MCA	y	Embolic (endocarditis)	1923					
33	31-40	m	left	MCA	n	Mycotic embolism	1923					
36	31-40	f	left	ICA	y	no information available	1923					
38	31-40	m	right	ICA	y	no information available	1923					
42	41-50	f	midline	AcomA	y	Embolic (endocarditis)	1923					
43	41-50	f	right	MCA	y	Arteriosclerosis	1923					
45	41-50	f	undefined	CBAN	n	no information available	1923					
45	41-50	f	left	ICA	y	Arteriosclerosis	1923					
49	41-50	m	midline	AcomA	y	no information available	1923					
84	81-100	f	left	ICA	n	Arteriosclerosis	1923					
52	51-60	f	right	ICA	n	no information available	1924					
53	51-60	f	midline	BA	y	Arteriosclerosis	1924					
54	51-60	f	right	ICA	y	no information available	1924					
55	51-60	f	right	PcomA	y	Arteriosclerosis	1924					
56	51-60	f	right	MCA	y	Arteriosclerosis	1924					
57	51-60	f	left	ICA	n	Syphilis and arterio sclerosis	1924					
57	51-60		right	ICA	n	Arteriosclerosis	1924					
60	51-60	f	left	ICA	y	Arteriosclerosis	1924					
61	61-70	f	right	ICA	y	Arteriosclerosis	1924					
64	61-70	f	midline	AcomA	n	Arteriosclerosis	1924					
68	61-70	f	left	PCA	y	Arteriosclerosis	1924					
65	61-70	f	left	ICA	y	no information available	1924					
69	61-70	f	left	PcomA	y	Arteriosclerosis	1924					
70	61-70	f	bilateral	MCA	n	Arteriosclerosis	1924					
70	61-70	f	left	MCA	y	Arteriosclerosis	1924					
70	61-70	f	right	PCA	y	Arteriosclerosis	1924					
74	71-80	m	left	AcomA	n	Arteriosclerosis	1924					
75	71-80	f	left	PcomA	n	Arteriosclerosis	1924					
84	81-100	f	right	MCA	y	Embolic (endocarditis)	1924					
24	21-30	m	right	AcomA	y	Arteriosclerosis	1924					
25	21-30	m	right	MCA	y	No atheroma	1924					
26	21-30	f	right	ICA	y	Healthy vessels	1924					
26	21-30	f	right	ICA	y	Healthy vessels	1924					
29	21-30	m	right	ICA	y	healthy vessels	1924					
30	21-30	m	midline	BA	y	Gummatous arteritis	1924					
38	31-40	f	left	AcomA	y	Arteriosclerosis	1924					
41	41-50	f	left	ICA	y	Endocarditis or arteriosclerosis	1924					
41	41-50	f	left	AcomA	y	Internal sclerosis (endocarditis)	1924					
41	41-50	f	right	ICA	y	no information available	1924					
47	41-50	m	midline	BA	n	no information available	1924					
49	41-50	m	right	AcomA	y	Arteriosclerosis	1924					
60	51-60	m	right	ICA	n	no information available	1924					
			right	PcomA	y	Atheroma	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	MCA		no information available	1924					
		f	left	ICA		no information available	1924					
		f	left	ICA		no information available	1924					
		f	left	ICA		no information available	1924					
		f	left	AcomA		no information available	1924					
		f	left	AcomA		no information available	1924					
		f	left	PcomA		no information available	1924					
		f	left	PcomA		no information available	1924					
		f	left	PcomA		no information available	1924					
		f	left	PcomA		no information available	1924					
		f	right	MCA		no information available	1924					
		f	right	MCA		no information available	1924					
		f	right	MCA		no information available	1924					
		f	right	MCA		no information available	1924					
		f	right	MCA		no information available	1924					
		f	right	ICA		no information available	1924					
		f	right	AcomA		no information available	1924					
		f	right	AcomA		no information available	1924					
		f	right	AcomA		no information available	1924					
		f	right	VA		no information available	1924					
		f	right	PcomA		no information available	1924					
		f	right	ICA		no information available	1924					
		f	midline	BA		no information available	1924					
		f	midline	AcomA		no information available	1924					
		f	midline	AcomA		no information available	1924					
		m	left	MCA		no information available	1924					

		m	left	MCA		no information available	1924					
		m	left	AcomA		no information available	1924					
		m	left	AcomA		no information available	1924					
		m	left	AcomA		no information available	1924					
		m	left	AcomA		no information available	1924					
		m	left	VA		no information available	1924					
		m	left	VA		no information available	1924					
		m	left	PICA		no information available	1924					
		m	right	PICA		no information available	1924					
		m	midline	BA		no information available	1924					
		m	midline	BA		no information available	1924					
		m	midline	AcomA		no information available	1924					
		m	midline	AcomA		no information available	1924					
		m	midline	AcomA		no information available	1924					
		m	midline	AcomA		no information available	1924					
		m	midline	AcomA		no information available	1924					
		m	midline	AcomA		no information available	1924					
7	6-10.	m	right	ICA	n	Infected thrombus	1925					
17	16-20	m	midline	BA	y	Congenital aneurysm	1925					
21	21-30	m	right	MCA	y	no information available	1925					
23	21-30	m	midline	BA	y	no information available	1925					
26	21-30	m	left	ICA	y	no information available	1925					
32	31-40	m	left	MCA	y	no information available	1925					
35	31-40	m	right	ICA	n	Mycotic embolus (endocarditis)	1925					
50	41-50	m	left	VA	y	no information available	1925					
			midline	BA	n	no information available	1925					
15	11-15.	f	right	AcomA	y	Healthy vessels	1926					
15	11-15.	m	left	MCA	y	Vessels healthy	1926					
15	11-15.	m	midline	BA	y	Vessels healthy	1926					
16	16-20	f	bilateral	MCA	y	Vessels healthy	1926					
16	16-20	m	left	MCA	y	Vessels healthy	1926					
17	16-20	m	left	MCA	y	Healthy vessels	1926					
20	16-20	m	left	MCA	y	Aneurysm congenital	1926					
20	16-20	m	midline	BA	y	Embolie	1926					
21	21-30	m	right	ICA	y	Congenital aneurysm	1926					
23	21-30	f	undefined	CBAN	n	no information available	1926					
23	21-30	m	right	PcomA	n	Atheroma	1926					
23	21-30	f	left	MCA	y	no information available	1926					
23	21-30	m	right	MCA	y	no information available	1926					
23	21-30	m	right	MCA	y	no information available	1926					
26	21-30	m	undefined	CBAN	n	Aneurysm seen at operation	1926					
26	21-30	f	midline	BA	y	Vessels healthy	1926					
27	21-30	m	right	MCA	y	Healthy vessels	1926					
28	21-30	m	right	MCA	y	Healthy vessels	1926					
30	21-30	f	midline	AcomA	y	Vessels healthy	1926					
32	31-40	f	right	ICA	n	no information available	1926					
32	31-40	f	left	ICA	y	no information available	1926					
32	31-40	f	left	AcomA	y	Vessels healthy	1926					
34	31-40	m	left	ICA	y	no information available	1926					
35	31-40	f	right	AcomA	y	Vessels not diseased	1926					
35	31-40	m	left	MCA	y	Vessels healthy	1926					
36	31-40	m	left	PcomA	n	Syphilitic	1926					
38	31-40	f	right	AcomA	y	Vessels healthy	1926					
38	31-40	m	midline	AcomA	y	Healthy vessels	1926					
39	31-40	m	left	MCA	y	Healthy vessels	1926					
40	31-40	f	left	VA	n	Atheroma	1926					
40	31-40	f	right	VA	n	Atheroma	1926					
40	31-40	m	left	AcomA	n	no information available	1926					
41	41-50	f	bilateral	MCA	y	Healthy vessels	1926					
41	41-50	f	bilateral	MCA	y	Vessels healthy	1926					
41	41-50	m	right	AcomA	y	Vessels healthy	1926					
42	41-50	m	left	MCA	y	Arteriosclerosis	1926					
42	41-50	m	midline	BA	y	Atheroma	1926					
45	41-50	f	right	ICA	y	Arteriosclerosis	1926					
45	41-50	f	left	ICA	y	no information available	1926					
45	41-50	m	right	AcomA	y	Healthy vessels	1926					
45	41-50	m	right	MCA	y	Healthy vessels	1926					
46	41-50	f	right	MCA	y	Vessels healthy	1926					
46	41-50	m	right	MCA	y	Vessels healthy	1926					
47	41-50	m	left	AcomA	y	Vessels healthy	1926					
48	41-50	f	midline	AcomA	y	Healthy vessels	1926					
49	41-50	f	midline	AcomA	y	Arteriosclerosis	1926					
50	41-50	m	left	MCA	y	Atheroma	1926					
52	51-60	f	midline	AcomA	y	Atheroma	1926					
52	51-60	f	right	ICA	y	Many atheromatous beads on other vessels	1926					
52	51-60	f	right	ICA	y	no information available	1926					
52	51-60	m	left	MCA	y	Arteriosclerosis	1926					
52	51-60	m	midline	BA	y	no information available	1926					
53	51-60	m	left	AcomA	y	Atheroma	1926					
55	51-60	f	left	MCA	y	Atheroma	1926					
56	51-60	f	left	PCA	y	Arteriosclerosis	1926					
58	51-60	f	right	ICA	n	Aneurysm seen at operation	1926					
60	51-60	m	right	AcomA	y	Vessels healthy	1926					
62	61-70	f	left	MCA	y	Atheroma	1926					
64	61-70	m	left	MCA	y	Atheroma	1926					
69	61-70	f	right	MCA	y	Atheroma	1926					
69	61-70	f	bilateral	PCA	y	no information available	1926					
72	71-80	m	right	AcomA	y	Arteriosclerosis	1926					
73	71-80	f	right	ICA	y	Many sclerotic plaques	1926					
11	11-15.	f	midline	AcomA	y	Congenital aneurysm	1927					
20	16-20	f	left	MCA	y	Congenital" aneurysm (coarctationof aorta)	1927					
30	21-30	f	midline	BA	n	no information available	1927					
30	21-30	f	left	PcomA	n	Vessels slightly thickened	1927					
34	31-40	m	right	PCA	y	Normal vessels	1927					
39	31-40	f	left	PcomA	y	Thickening of intima in basilar artery	1927					
40	31-40	m	left	MCA	y	"Congenital" aneurysm (coarctation of aorta)	1927					
42	41-50	f	midline	AcomA	y	no information available	1927					
42	41-50	m	right	AcomA	y	Congenital" aneurysm	1927					
42	41-50	m	bilateral	ICA	y	No other vascular disease	1927					
52	51-60	f	left	AcomA	y	no information available	1927					
52	51-60	f	left	ICA	y	Small foci of early calcification	1927					
69	61-70	f	left	MCA	y	no information available	1927					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
3	0-5.	f	left	MCA	y	no information available	1928					
4	0-5.	m	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
5	0-5.	f	right	AcomA	y	no information available	1928					
10	6-10.	m	right	AcomA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
18	16-20	m	left	MCA	y	no information available	1928					
20	16-20	m	right	AcomA	y	no information available	1928					
21	21-30	m	right	AcomA	y	Congenital" aneurysm (coarctation ofaorta); medial defect	1928					
21	21-30	m	left	AcomA	y	no information available	1928					
21	21-30	m	left	AcomA	y	no information available	1928					
21	21-30	m	left	AcomA	y	no information available	1928					
22	21-30	m	left	AcomA	y	no information available	1928					
23	21-30	f	right	PcomA	y	no information available	1928					
25	21-30	m	right	PCA	y	Congenital" aneurysm; no signs of arteriosclerosis	1928					
28	21-30	m	right	AcomA	y	no information available	1928					
30	21-30	f	right	MCA	y	Patches of atheromatous changes in wall of aneurysm; "congenital"	1928					
31	31-40	f	left	AcomA	y	no information available	1928					
31	31-40	f	left	AcomA	y	no information available	1928					
31	31-40	f	left	AcomA	y	no information available	1928					
31	31-40	f	left	AcomA	y	no information available	1928					
31	31-40	f	left	AcomA	y	no information available	1928					
32	31-40	m	midline	BA	y	Syphilis	1928					
39	31-40	m	right	MCA	y	no information available	1928					
39	31-40	m	right	MCA	y	no information available	1928					
39	31-40	m	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
41	41-50	f	right	MCA	y	no information available	1928					
46	41-50	f	left	AcomA	y	Few patches of atheroma on aneurysm	1928					
49	41-50	f	right	MCA	y	Congenital aneurysm	1928					
		f	left	VA	y	no information available	1928					
		f	left	ICA	y	no information available	1928					
		f	left	ICA	y	no information available	1928					
		f	left	ICA	y	no information available	1928					
		f	left	ICA	y	no information available	1928					
		f	left	ICA	y	no information available	1928					
		f	left	PCA	y	no information available	1928					
		f	left	PcomA	y	no information available	1928					
		f	right	VA	y	no information available	1928					
		f	right	ICA	y	no information available	1928					
		f	right	ICA	y	no information available	1928					
		f	right	ICA	y	no information available	1928					
		f	right	PCA	y	no information available	1928					
		f	right	PcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					

		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	AcomA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		f	midline	BA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	VA	y	no information available	1928					
		m	left	ICA	y	no information available	1928					
		m	left	PCA	y	no information available	1928					
		m	left	PCA	y	no information available	1928					
		m	left	PCA	y	no information available	1928					
		m	right	VA	y	no information available	1928					
		m	right	ICA	y	no information available	1928					
		m	right	PcomA	y	no information available	1928					
		m	right	AICA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	AcomA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	midline	BA	y	no information available	1928					
		m	undefined	CBAN	y	no information available	1928					
		m	undefined	CBAN	y	no information available	1928					
		m	undefined	CBAN	y	no information available	1928					
		m	undefined	CBAN	y	no information available	1928					
		m	undefined	CBAN	y	no information available	1928					
30	21-30	f	right	PcomA	y	No other pathologic changes	1929					
32	31-40	m	undefined	CBAN	y	no information available	1929					
33	31-40	m	left	MCA	y	no information available	1929					
34	31-40	f	left	ICA	y	no information available	1929					
47	41-50	f	right	PcomA	y	Arteriosclerosis	1929					
59	51-60	f	left	ICA	y	Arteriosclerosis	1929					
60	51-60	m	midline	BA	y	Thickened walls	1929					
61	61-70	m	right	ICA	y	no information available	1929					
8	6-10.	m	bilateral	PCA	y	Congenital aneurysm	1930					
21	21-30	f	left	MCA	y	Congenital aneurysm	1930					
23	21-30	f	right	ICA	y	no information available	1930					
24	21-30	f	right	AcomA	y	Congenital aneurysm	1930					
28	21-30	f	right	MCA	y	Congenital aneurysm	1930					
28	21-30	f	left	MCA	y	no information available	1930					
32	31-40	m	left	MCA	y	Congenital aneurysm	1930					
33	31-40	m	right	AcomA	y	Congenital aneurysm	1930					
49	41-50	m	left	AcomA	y	no information available	1930					
51	51-60	f	right	MCA	y	Healthy vessels	1930					
77	71-80	f	midline	BA	n	Atheroma	1930					
11	11-15.	m	left	MCA	y	Congenital aneurysm	1931					
15	11-15.	f	left	PcomA	y	no information available	1931					
20	16-20	f	right	ICA	y	Congenital aneurysm	1931					
23	21-30	f	left	AcomA	y	Congenital aneurysm	1931					
24	21-30	m	right	MCA	y	Congenital aneurysm	1931					
26	21-30	m	right	MCA	y	Congenital aneurysm	1931					
27	21-30	m	midline	BA	y	Congenital aneurysm	1931					
27	21-30	m	right	PcomA	y	no information available	1931					
28	21-30	f	left	MCA	y	Congenital aneurysm	1931					
28	21-30	m	left	PcomA	y	no information available	1931					
29	21-30	f	right	ICA	y	No arteriosclerosis	1931					
29	21-30	m	right	AcomA	y	Yellow plaques on Ibid,intima at bifurcation points; (endocarditis)	1931					
31	31-40	f	right	PcomA	y	Healthy vessels	1931					
31	31-40	m	right	MCA	y	no information available	1931					
33	31-40	f	midline	AcomA	y	Congenital aneurysm	1931					
34	31-40	m	bilateral	PCA	y	Calcareous deposits	1931					
38	31-40	m	right	ICA	y	Arteriosclerosis	1931					
40	31-40	f	right	ICA	y	Congenital aneurysm	1931					
40	31-40	f	left	ICA	y	no information available	1931					
44	41-50	f	left	AcomA	y	Slight evidence of arteriosclerosis	1931					
46	41-50	f	right	MCA	y	Arteriosclerosis	1931					
46	41-50	f	left	PcomA	y	Few yellow plaques on basilar artery	1931					
49	41-50	f	left	ICA	y	Arteriosclerosis	1931					
49	41-50	m	midline	BA	y	Very sclerotic	1931					
50	41-50	f	left	VA	n	no information available	1931					
52	51-60	m	left	MCA	y	Healthy vessels	1931					
53	51-60	f	right	MCA	y	Congenital aneurysm	1931					
55	51-60	m	left	MCA	y	Arteriosclerosis	1931					
56	51-60	m	right	VA	y	no information available	1931					
58	51-60	f	left	ICA	y	no information available	1931					
60	51-60	f	right	PcomA	y	Arteriosclerosis	1931					
64	61-70	f	left	ICA	n	Arteriosclerosis	1931					
64	61-70	f	left	MCA	y	Arteriosclerosis	1931					
64	61-70	f	right	PcomA	y	Some thickening of Ibid. intima, probably of infectious origin	1931					
66	61-70	f	right	MCA	y	Arteriosclerosis	1931					
66	61-70	m	midline	BA	y	Arteriosclerosis	1931					
70	61-70	m	left	ICA	y	Arteriosclerosis	1931					
72	71-80	f	midline	AcomA	y	Arteriosclerosis	1931					
72	71-80	f	left	AcomA	y	Arteriosclerosis	1931					
75	71-80	m	midline	BA	n	no information available	1931					
			right	MCA	y	Arteriosclerosis	1931					
6	6-10.	f	right	AcomA	y	other vessels normal	1932					
17	16-20	m	midline	BA	n	Changes of early arteriosclerosis	1932					
19	16-20	f	left	MCA	y	Mycotic (endocarditis)	1932					
19	16-20	f	midline	AcomA	y	no information available	1932					
20	16-20	f	right	MCA	y	no information available	1932					
24	21-30	m	midline	BA	y	Mycotic	1932					
25	21-30	f	right	PcomA	y	No other abnormalities of vessels	1932					
25	21-30	m	left	MCA	y	Congenital aneurysm	1932					
29	21-30	m	right	PcomA	y	no information available	1932					
30	21-30	f	left	PCA	n	Arteriosclerosis	1932					
30	21-30	f	bilateral	MCA	y	Congenital aneurysm	1932					
31	31-40	m	left	AcomA	y	Diffuse degenerative changes in all three coats	1932					
35	31-40	m	bilateral	MCA	y	Arteriosclerosis	1932					
36	31-40	f	left	PcomA	y	Arteriosclerosis	1932					
40	31-40	m	midline	BA	y	Arteriosclerosis	1932					
41	41-50	f	bilateral	MCA	y	Congenital aneurysm	1932					
43	41-50		midline	BA	n	Atheroma	1932					
43	41-50	m	left	PcomA	y	Arteriosclerosis	1932					
45	41-50		midline	AcomA	n	Arteriosclerosis	1932					
47	41-50	m	midline	BA	y	no information available	1932					
52	51-60	m	left	AcomA	y	Congenital aneurysm	1932					
54	51-60	f	right	MCA	y	Pronounced degenerative changes in all coats	1932					
60	51-60	m	left	AcomA	y	Arteriosclerosis	1932					
61	61-70	m	midline	BA	n	Arteriosclerosis	1932					
61	61-70	f	left	PcomA	y	Arteriosclerosis	1932					
61	61-70	m	left	MCA	y	Basilar artery arterioclerotic	1932					
67	61-70	m	right	BA	y	no information available	1932					
68	61-70	m	undefined	CBAN	y	Arteriosclerosis	1932					
			bilateral	MCA	y	no information available	1932					
			bilateral	MCA	y	no information available	1932					
			midline	AcomA	y	no information available	1932					
			midline	AcomA	y	no information available	1932					
20	16-20	f	left	ICA	y	Congenital aneurysm	1933					
24	21-30	m	left	ICA	y	no information available	1933					
27	21-30	m	midline	BA	y	No other microscopic changes; Heubner's arteritis	1933					
28	21-30	f	right	PCA	y	infection	1933					
28	21-30	m	left	MCA	y	Localized areas of fat absorption	1933					
29	21-30	m	right	AcomA	y	Congenital aneurysm	1933					
29	21-30	m	right	AcomA	y	Congenital aneurysm	1933					
35	31-40	f	undefined	CBAN	n	no information available	1933					
36	31-40	f	left	AcomA	y	no information available	1933					
39	31-40	f	undefined	CBAN	y	no information available	1933					
40	31-40	m	midline	AcomA	n	Arteriosclerosis	1933					
40	31-40	m	right	AcomA	y	no information available	1933					
42	41-50	m	left	MCA	y	Arteriosclerosis	1933					
45	41-50	f	left	ICA	y	no information available	1933					
47	41-50	f	left	PcomA	y	no information available	1933					
47	41-50	m	right	ICA	y	Arteriosclerosis	1933					
47	41-50	m	midline	AcomA	y	Arteriosclerosis	1933					
51	51-60	f	left	ICA	y	Vessels degenerated	1933					
53	51-60	m	left	ICA	n	Arteriosclerosis	1933					
56	51-60	f	right	MCA	y	Extensive atheroma	1933					
57	51-60	m	left	ICA	n	Arteriosclerosis	1933					
58	51-60	m	right	AcomA	n	Arteriosclerosis	1933					
67	61-70	m	left	ICA	n	Arteriosclerosis	1933					
67	61-70	m	right	ICA	y	Cerebral vessels thin and smooth	1933					
69	61-70	f	right	MCA	n	Arteriosclerosis	1933					
75	71-80	m	left	ICA	n	Arteriosclerosis	1933					
76	71-80	m	right	AcomA	n	Arteriosclerosis	1933					
83	81-100	m	right	AcomA	n	no information available	1933					
		m	right	MCA	y	Congenital aneurysm	1933					
24	21-30	f	right	ICA	y	Healthy vessels	1934					
26	21-30	m	left	MCA	y	Healthy vessels	1934					
31	31-40	f	right	ICA	y	other vessels normal	1934					
37	31-40	f	right	PcomA	y	no information available	1934					
38	31-40	f	left	MCA	y	conjenital aneurysm	1934					
40	31-40	f	right	MCA	y	Atheromatous	1934					
42	41-50	m	midline	AcomA	y	Congenital aneurysm	1934					
42	41-50	m	midline	AcomA	y	Healthy vessels	1934					
42	41-50	m	midline	AcomA	y	no information available	1934					
43	41-50	f	left	MCA	y	Arteriosclerosis	1934					
43	41-50	m	right	AcomA	y	conjenital aneurysm	1934					
47	41-50	f	right	MCA	y	no information available	1934					
49	41-50	m	left	AcomA	y	conjenital aneurysm	1934					
50	41-50	m	right	ICA	y	No arteriosclerosis	1934					
51	51-60	m	right	ICA	y	No arteriosclerosis	1934					
53	51-60	m	right	ICA	n	Healthy vessels	1934					
53	51-60	f	right	PCA	y	Healthy vessels	1934					
53	51-60	m	left	MCA	y	Arteriosclerosis	1934					
54	51-60	m	right	ICA	y	Arteriosclerosis	1934					
55	51-60	f	right	ICA	n	Normal vessels	1934					
55	51-60	f	right	PcomA	y	Arteriosclerosis	1934					
57	51-60	f	right	ICA	y	No arteriosclerosis	1934					
59	51-60	f	right	MCA	y	no information available	1934					
60	51-60	m	left	MCA	y	Healthy vessels	1934					
62	61-70	f	right	ICA	y	Arteriosclerosis	1934					
64	61-70	f	right	ICA	y	Normal vessels	1934					
89	81-100	f	right	ICA	y	Healthy vessels	1934					
33	31-40	f	midline	BA	y	conjenital aneurysm	1935					
38	31-40	m	right	MCA	y	Healthy vessels	1935					
43	41-50	f	right	ICA	n	no information available	1935					
44	41-50	m	left	ICA	y	no information available	1935					
64	61-70	f	right	PcomA	y	no information available	1935					

20	16-20	f	right	PcomA	y	syphilis	1936								
21	21-30	m	right	MCA	y	Wall of aneurysm showed diffuse inflam mation, of mycotic origin	1936								
28	21-30	m	left	MCA	y	no information available	1936								
31	31-40	f	left	ICA	n	no information available	1936								
31	31-40	m	right	MCA	y	Atheroma	1936								
31	31-40	m	right	ICA	y	no information available	1936								
39	31-40	f	left	ICA	y	Inflammation of intima	1936								
44	41-50	f	left	AcomA	y	Arteries covered with yellow plaques; seen at operation	1936								
45	41-50	f	right	VA	y	no information available	1936								
46	41-50	f	right	ICA	y	no information available	1936								
48	41-50	m	right	ICA	y	no information available	1936								
50	41-50	f	midline	AcomA	y	no information available	1936								
53	51-60	m	left	ICA	y	Arteriosclerosis	1936								
57	51-60	m	left	ICA	n	no information available	1936								
58	51-60	m	undefined	CBAN	n	no information available	1936								
61	61-70	m	left	PcomA	y	Atheroma	1936								
65	61-70	m	right	MCA	n	congenital aneurysm	1936								
74	71-80	m	midline	AcomA	y	Atheroma	1936								
2	0-5	m	right	VA	y	Congenital (?) narrow media	1937								
8	6-10	f	bilateral	MCA	y	Infective (endocarditis)	1937								
8	6-10	m	undefined	CBAN	y	No changes in wall. Herman probably septic embolus	1937								
20	16-20	f	undefined	CBAN	y	no information available	1937								
20	16-20	m	undefined	CBAN	y	no information available	1937								
23	21-30	m	left	ICA	n	Aneurysm seen at operation	1937								
24	21-30	m	midline	BA	y	atherosclerotic, syphilitic aortitis	1937								
26	21-30	f	right	ICA	y	Normal vessels	1937								
28	21-30	m	undefined	CBAN	y	no information available	1937								
29	21-30	f	right	ICA	y	no information available	1937								
32	31-40	m	left	AcomA	y	no information available	1937								
34	31-40	f	undefined	CBAN	n	no information available	1937								
35	31-40	m	bilateral	VA	y	Syphilis	1937								
36	31-40	f	right	AcomA	y	no information available	1937								
36	31-40	m	undefined	CBAN	y	no information available	1937								
37	31-40	m	left	AcomA	y	Atheroma	1937								
38	31-40	f	midline	AcomA	y	Syphilis	1937								
39	31-40	m	undefined	CBAN	y	no information available	1937								
40	31-40	m	left	PICA	y	Few small atheroma- tous plaques; acellular, hyalinized, thin media	1937								
42	41-50	m	right	ICA	y	Normal vessels	1937								
43	41-50	f	left	ICA	y	Thickening of wall of internal carotid artery	1937								
44	41-50	f	undefined	CBAN	n	Aneurysm seen at operation	1937								
44	41-50	m	midline	AcomA	n	no information available	1937								
44	41-50	m	right	ICA	y	Arteriosclerosis	1937								
46	41-50	f	undefined	CBAN	y	no information available	1937								
48	41-50	f	undefined	CBAN	n	no information available	1937								
49	41-50	f	bilateral	ICA	y	Syphilitic arteritis and atheroma	1937								
49	41-50	m	undefined	CBAN	y	Atheroma	1937								
49	41-50	m	right	MCA	y	Syphilitic arteritis and atheroma	1937								
50	41-50	f	left	ICA	n	Aneurysm seen at operation	1937								
50	41-50	m	midline	AcomA	y	Syphilis	1937								
51	51-60	f	undefined	CBAN	n	no information available	1937								
51	51-60	f	right	MCA	y	Syphilis	1937								
53	51-60	f	right	ICA	n	Aneurysm seen at operation	1937								
54	51-60	f	left	PcomA	y	Arteriosclerosis	1937								
54	51-60	m	undefined	CBAN	y	no information available	1937								
56	51-60	f	left	ICA	n	Aneurysm seen at operation	1937								
58	51-60	f	right	AcomA	y	Arteriosclerosis	1937								
58	51-60	m	undefined	CBAN	y	no information available	1937								
61	61-70	f	undefined	CBAN	y	no information available	1937								
62	61-70	f	right	AcomA	y	Atheroma	1937								
62	61-70	f	undefined	CBAN	y	no information available	1937								
62	61-70	m	undefined	CBAN	y	no information available	1937								
63	61-70	f	midline	BA	y	no information available	1937								
65	61-70	f	bilateral	PCA	y	Syphilis	1937								
67	61-70	f	right	CBAN	n	Aneurysm seen at operation	1937								
67	61-70	m	undefined	CBAN	y	no information available	1937								
69	61-70	f	right	MCA	y	Syphilis	1937								
71	71-80	m	undefined	CBAN	y	Atheroma	1937								
72	71-80	f	left	PcomA	n	Atheroma	1937								
73	71-80	f	midline	BA	n	Syphilis	1937								
74	71-80	m	left	ICA	y	Arteriosclerosis	1937								
75	71-80	m	midline	AcomA	y	Atheroma	1937								
84	81-100	f	right	ICA	n	Arteriosclerosis	1937								
		f	right	VA	y	Syphilis	1937								
16	16-20	m	midline	AcomA	y	Embolic (endocarditis)	1937								
33	31-40	m	right	AcomA	y	Vessel healthy	1937								
38	31-40	f	right	MCA	y	Arteriosclerosis	1937								
41	41-50	f	right	AcomA	y	Vessel healthy	1937								
42	41-50	m	left	AcomA	y	Vessel healthy	1937								
60	51-60	f	right	MCA	y	Arteriosclerosis	1937								
62	61-70	f	midline	AcomA	y	Syphilis	1937								
66	61-70	f	midline	AcomA	y	Syphilis	1937								
31	31-40	m	midline	BA	y	Syphilis	1937								



age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	age range	192.00	17.04	17.04	
	0-5	21.00	1.86	1.86	
	6-10	14.00	1.24	1.24	
	11-15	29.00	2.57	2.57	
	16-20	58.00	5.15	5.15	
	21-30	146.00	12.95	12.95	
	31-40	165.00	14.64	14.64	
	41-50	203.00	18.01	18.01	
	51-60	159.00	14.11	14.11	
	61-70	94.00	8.34	8.34	
	71-80	35.00	3.11	3.11	
	81-100	11.00	0.98	0.98	
	Total	1127.00	100.00	100.00	

occurrence of aneurysms in all age groups (15 months to 89 years), recorded from 1761 to 1938, (McDonald & Korb 1939)

		age	age range	sex	side	arteries	rupture	arterial confluence
all cases N	Valid	935.00	1127.00	1127.00	1127.00	1127.00	1127.00	1127.00
	Missing	192.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean		41.69						1909.81
Median		41.00						1923.00
Mode		41.00						1928.00
Std. Deviation		17.69						28.33
Minimum		1.50						1761.00
Maximum		89.00						1938.00

sex

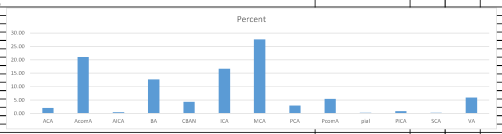
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		28.00	2.50	2.50	2.50
	f	571.00	50.80	50.80	53.30
	m	526.00	46.70	46.70	100.00
	Total	1127.00	100.00	100.00	

side

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	33.00	2.90	2.90	2.90
	left	386.00	34.30	34.30	37.20
	midline	279.00	24.80	24.80	61.90
	right	367.00	32.60	32.60	94.50
	undefined	62.00	5.50	5.50	100.00
	Total	1127.00	100.00	100.00	

arteries- all cases of cerebral aneurysms in all age groups ≥15 months, recorded from 1761 to 1938, (McDonald CA, Korb M. Intracranial aneurysms. Archives of neurology and psychiatry (Chicago) 1939; 42(2): 298-328.)

	arteries	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	22.00	2.00	2.00	2.00
	AcomA	237.00	21.00	21.00	23.00
	AICA	5.00	0.40	0.40	23.40
	BA	142.00	12.60	12.60	36.00
	CBAN	49.00	4.30	4.30	40.40
	ICA	187.00	16.60	16.60	57.00
	MCA	311.00	27.60	27.60	84.60
	PCA	33.00	2.90	2.90	87.50
	PcomA	61.00	5.40	5.40	92.90
	pial	2.00	0.20	0.20	93.10
	PICA	9.00	0.80	0.80	93.90
	SCA	7.00	0.20	0.20	94.10
	VA	67.00	5.90	5.90	100.00
	Total	1127.00	100.00	100.00	



rupture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		54.00	4.80	4.80	4.80
	n	198.00	17.60	17.60	22.40
	y	875.00	77.60	77.60	100.00
	Total	1127.00	100.00	100.00	

occurrence of aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939).

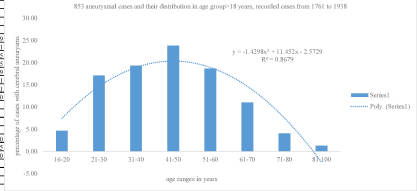
Statistics

		age	age range	sex	side	arteries	rupture	arterial confluence
N	Valid	853.00	853.00	853.00	853.00	853.00	853	853.00	853.00
	Missing	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
Mean		44.68							1907.90
Median		43.00							1919.00
Mode		41.00							1894.00
Std. Deviation		15.46							29.66
Minimum		18.00							1761.00
Mesimum		89.00							1938.00
Percentiles	25	32.00							1894.00
	50	43.00							1919.00
	75	56.00							1929.00

Frequency Table = cases of cerebral aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939)

age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	40.00	4.69	4.69	4.69
	21-30	146.00	17.13	17.13	21.81
	31-40	165.00	19.34	19.34	41.15
	41-50	203.00	23.80	23.80	64.95
	51-60	159.00	18.64	18.64	83.59
	61-70	94.00	11.02	11.02	94.61
	71-80	35.00	4.10	4.10	98.71
	81-100	11.00	1.29	1.29	100.00
	Total	853.00	100.00	100.00	



sex = cases of cerebral aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6.00	0.70	0.70	0.70
	f	438.00	51.35	51.35	52.05
	m	409.00	47.95	47.95	100.00
	Total	853.00	100.00	100.00	

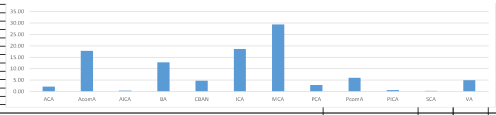
side involved- cases of cerebral aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	24.00	2.81	2.81	2.81
	left	295.00	34.58	34.58	37.40
	midline	181.00	21.22	21.22	58.62
	right	303.00	35.76	35.76	94.37
	undefined	48.00	5.63	5.63	100.00
	Total	853.00	100.00	100.00	

arteries involved- cases of cerebral aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939)

	arteries	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	18.00	2.11	2.11	2.11

	AcomA	151.00	17.70	17.70	19.81	
	AICA	3.00	0.35	0.35	20.16	
	BA	109.00	12.78	12.78	32.94	
	CBAN	40.00	4.69	4.69	37.63	
	ICA	158.00	18.52	18.52	56.15	
	MCA	250.00	29.31	29.31	85.46	
	PCA	24.00	2.81	2.81	88.28	
	PcomA	51.00	5.98	5.98	94.26	
	PICA	5.00	0.59	0.59	94.84	
	SCA	2.00	0.23	0.23	95.08	
	VA	42.00	4.92	4.92	100.00	
	Total	853.00	100.00	100.00		



rupture- cases of cerebral aneurysms in age groups ≥18 years, recorded from 1761 to 1938, (McDonald & Korb 1939)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	170.00	19.93	19.93	19.93
	y	683.00	80.07	80.07	100.00
	Total	853.00	100.00	100.00	

cases of cerebral aneurysms in age groups less than 20 years, recorded from 1761 to 1938, (McDonald & Korb 1939)

Statistics

		age	age range	sex	side	arteries	rupture	arterial condition
N	Valid	122.00	122.00	122.00	122.00	122.00	122	122.00	122.00
	Missing	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00
Mean		13.36							1905.83
Median		15.00							1921.00
Mode		20.00							1928.00
Std. Deviation		5.88							30.63
Minimum		1.50							1814.00
Maximum		20.00							1978.00
Percentiles	25	8.00							1882.75
	50	15.00							1921.00
	75	18.00							1928.00

age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	21.00	17.21	17.21	17.21
	11-15	29.00	23.77	23.77	40.98
	16-20	58.00	47.54	47.54	88.52
	6-10	14.00	11.48	11.48	100.00
	Total	122.00	100.00	100.00	

sex

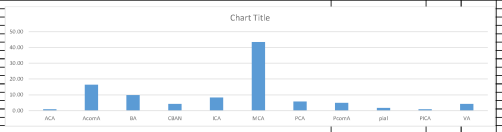
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	f	59.00	48.36	48.36	48.36
	m	63.00	51.64	51.64	100.00
	Total	122.00	100.00	100.00	

side

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	7.00	5.74	5.74	5.74
	left	53.00	43.44	43.44	49.18
	midline	17.00	13.93	13.93	63.11
	right	38.00	31.15	31.15	94.26
	undefined	7.00	5.74	5.74	100.00
	Total	122.00	100.00	100.00	

arteries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	1.00	0.82	0.82	0.82
	AcomA	20.00	16.39	16.39	17.21
	BA	12.00	9.84	9.84	27.05
	CBAN	5.00	4.10	4.10	31.15
	ICA	10.00	8.20	8.20	39.34
	MCA	53.00	43.44	43.44	82.79
	PCA	7.00	5.74	5.74	88.52
	PcomA	6.00	4.92	4.92	93.44
	pial	2.00	1.64	1.64	95.08
	PICA	1.00	0.82	0.82	95.90
	VA	5.00	4.10	4.10	100.00
	Total	122.00	100.00	100.00	



rupture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	16.00	13.11	13.11	13.11
	y	106.00	86.89	86.89	100.00
	Total	122.00	100.00	100.00	

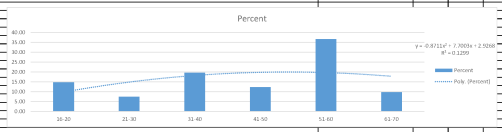
Frequency- cases of cerebral aneurysms in age >= 18 & year < 1850 up to 17x1 (McDonald & Korb 1939)

Statistics

		age	age range	sex	side	arteries	rupture	arterial condition
N	Valid	41.00	41.00	41.00	41.00	41.00	41	41.00
	Missing	0.00	0.00	0.00	0.00	0.00	0	0.00
Mean		44.32						
Median		47.00						
Mode		20.00						
Std. Deviation		15.61						
Minimum		19.00						
Maximum		68.00						
Percentiles	25	33.50						
	50	47.00						
	75	59.00						

age range

	age range in years	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	6.00	14.63	14.63	14.63
	21-30	3.00	7.32	7.32	21.95
	31-40	8.00	19.51	19.51	41.46
	41-50	5.00	12.20	12.20	53.66
	51-60	15.00	36.59	36.59	90.24
	61-70	4.00	9.76	9.76	100.00
	Total	41.00	100.00	100.00	

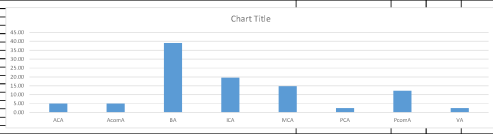


sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	f	16.00	39.02	39.02	39.02
	m	25.00	60.98	60.98	100.00
	Total	41.00	100.00	100.00	

side

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	2.00	4.88	4.88	4.88
	left	10.00	24.39	24.39	29.27
	midline	18.00	43.90	43.90	73.17
	right	7.00	17.07	17.07	90.24
	undefined	4.00	9.76	9.76	100.00
	Total	41.00	100.00	100.00	



arteries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	2.00	4.88	4.88	4.88
	AcomA	2.00	4.88	4.88	9.76
	BA	16.00	39.02	39.02	48.78
	ICA	8.00	19.51	19.51	68.29
	MCA	6.00	14.63	14.63	82.93
	PCA	1.00	2.44	2.44	85.37
	PcomA	5.00	12.20	12.20	97.56
	VA	1.00	2.44	2.44	100.00
	Total	41.00	100.00	100.00	

rupture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	8.00	19.51	19.51	19.51
	y	33.00	80.49	80.49	100.00
	Total	41.00	100.00	100.00	

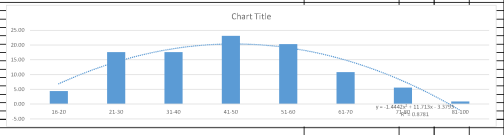
Frequency- cases of cerebral aneurysms in age >= 18 & year >= 1850 & year < 1900 (McDonald & Korb 1939)

Statistics

		age	age range	sex	side	arteries	rupture	arterial condition
N	Valid	251.00	251.00	251.00	251.00	251.00	251	251.00
	Missing	0.00	0.00	0.00	0.00	0.00	0	0.00
Mean		45.63						
Median		45.00						
Mode		40.00						
Std. Deviation		15.59						
Minimum		18.00						
Maximum		86.00						
Percentiles	25	34.00						
	50	45.00						
	75	56.00						

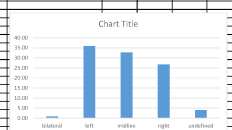
age range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	11.00	4.38	4.38	4.38
	21-30	44.00	17.53	17.53	21.91
	31-40	44.00	17.53	17.53	39.44
	41-50	58.00	23.11	23.11	62.55
	51-60	51.00	20.32	20.32	82.87
	61-70	27.00	10.76	10.76	93.63
	71-80	14.00	5.58	5.58	99.20
	81-100	2.00	0.80	0.80	100.00
	Total	251.00	100.00	100.00	



sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1.00	0.40	0.40	0.40
	f	136.00	54.18	54.18	54.58
	m	114.00	45.42	45.42	100.00
	Total	251.00	100.00	100.00	

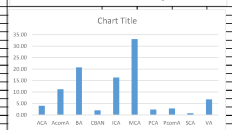


side

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	2.00	0.80	0.80	0.80
	left	90.00	35.86	35.86	36.65
	midline	82.00	32.67	32.67	69.32
	right	67.00	26.69	26.69	96.02
	undefined	10.00	3.98	3.98	100.00
	Total	251.00	100.00	100.00	

arteries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	10.00	3.98	3.98	3.98
	AcomA	28.00	11.16	11.16	15.14
	BA	52.00	20.72	20.72	35.86
	CBAN	5.00	1.99	1.99	37.85
	ICA	41.00	16.33	16.33	54.18
	MCA	83.00	33.07	33.07	87.25
	PCA	6.00	2.39	2.39	89.64
	PcomA	7.00	2.79	2.79	92.43
	SCA	2.00	0.80	0.80	93.23
	VA	17.00	6.77	6.77	100.00
	Total	251.00	100.00	100.00	



rupture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	63.00	25.10	25.10	25.10
	y	188.00	74.90	74.90	100.00
	Total	251.00	100.00	100.00	

Frequency- cases of cerebral aneurysms in age >= 18 & year 1900 to 1938 (McDonald & Korb 1939)

Statistics

		age	age range	sex	side	arteries	rupture	arterial condition
N	Valid	561.00	561.00	561.00	561.00	561.00	561	561.00
	Missing	0.00	0.00	0.00	0.00	0.00	0	0.00
Mean		44.27						

Median		42.00				
Mode		41.00				
Std. Deviation		15.29				
Minimum		18.00				
Maximum		89.00				
Percentiles	25	32.00				
	50	42.00				
	75	55.00				
age range						
	age range	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	16-20	27.00	4.10	4.10	4.10	
	21-30	99.00	17.65	17.65	21.75	
	31-40	113.00	20.14	20.14	41.89	
	41-50	140.00	24.96	24.96	66.84	
	51-60	93.00	16.58	16.58	83.42	
	61-70	63.00	11.23	11.23	94.65	
	71-80	21.00	3.74	3.74	98.40	
	81-100	9.00	1.60	1.60	100.00	
	Total	561.00	100.00	100.00		
sex						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid		5.00	0.89	0.89	0.89	
	f	286.00	50.98	50.98	51.87	
	m	270.00	48.13	48.13	100.00	
	Total	561.00	100.00	100.00		
side						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	bilateral	20.00	3.57	3.57	3.57	
	left	195.00	34.76	34.76	38.32	
	midline	81.00	14.44	14.44	52.76	
	right	231.00	41.18	41.18	93.94	
	undefined	34.00	6.06	6.06	100.00	
	Total	561.00	100.00	100.00		
arteries						
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	ACA	6.00	1.07	1.07	1.07	
	AcomA	121.00	21.57	21.57	22.64	
	AICA	3.00	0.53	0.53	23.17	
	BA	41.00	7.31	7.31	30.48	
	CBAN	35.00	6.24	6.24	36.72	
	ICA	109.00	19.43	19.43	56.15	
	MCA	161.00	28.70	28.70	84.85	
	PCA	17.00	3.03	3.03	87.88	
	PcomA	39.00	6.95	6.95	94.83	
	PICA	5.00	0.89	0.89	95.72	
	VA	24.00	4.28	4.28	100.00	
	Total	561.00	100.00	100.00		
rupture						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	n	99.00	17.65	17.65	17.65	
	y	462.00	82.35	82.35	100.00	
	Total	561.00	100.00	100.00		

Frequency- cases of cerebral aneurysms in all age (i.e., >15 months to 89 years) & year <1850 to 1761 (McDonald & Korb 1939)

Statistics									
		age	age range	sex	side	arteries	rupture	arterial condition	
N	Valid	42.00	49.00	49.00	49.00	49.00	49	49.00	
	Missing	7.00	0.00	0.00	0.00	0.00	0	0.00	
Mean		43.60							
Median		46.00							
Mode		20.00							
Std. Deviation		16.11							
Minimum		14.00							
Maximum		68.00							
Percentiles	25	31.75							
	50	46.00							
	75	59.00							
age range									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		7.00	14.29	14.29	14.29				
	11-15	1.00	2.04	2.04	16.33				
	16-20	6.00	12.24	12.24	28.57				
	21-30	3.00	6.12	6.12	34.69				
	31-40	8.00	16.33	16.33	51.02				
	41-50	5.00	10.20	10.20	61.22				
	51-60	15.00	30.61	30.61	91.84				
	61-70	4.00	8.16	8.16	100.00				
	Total	49.00	100.00	100.00					
sex									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		3.00	6.12	6.12	6.12				
	f	16.00	32.65	32.65	38.78				
	m	30.00	61.22	61.22	100.00				
	Total	49.00	100.00	100.00					
side									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	bilateral	2.00	4.08	4.08	4.08				
	left	11.00	22.45	22.45	26.53				
	midline	22.00	44.90	44.90	71.43				
	right	9.00	18.37	18.37	89.80				
	undefined	5.00	10.20	10.20	100.00				
	Total	49.00	100.00	100.00					
arteries									
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	ACA	2.00	4.08	4.08	4.08				
	AcomA	3.00	6.12	6.12	10.20				
	BA	19.00	38.78	38.78	48.98				
	ICA	9.00	18.37	18.37	67.35				
	MCA	7.00	14.29	14.29	81.63				
	PCA	1.00	2.04	2.04	83.67				
	PcomA	5.00	10.20	10.20	93.88				
	VA	3.00	6.12	6.12	100.00				
	Total	49.00	100.00	100.00					
rupture									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		2.00	4.08	4.08	4.08				
	n	13.00	26.53	26.53	30.61				
	y	34.00	69.39	69.39	100.00				
	Total	49.00	100.00	100.00					

Frequency- cases of cerebral aneurysms in all age (i.e., >15 months to 89 years) & year>=1900 & year >= 1850 (McDonald & Korb 1939)

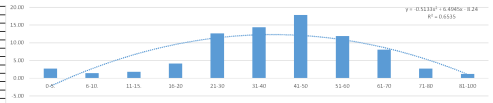
Statistics									
		age	age range	sex	side	arteries	rupture	arterial condition	
N	Valid	277.00	291.00	291.00	291.00	291.00	291	291.00	
	Missing	14.00	0.00	0.00	0.00	0.00	0	0.00	
Mean		47.07							
Median		43.00							
Mode		40.00							
Std. Deviation		17.50							
Minimum		6.00							
Maximum		86.00							
Percentiles	25	28.50							
	50	43.00							
	75	56.00							
age range									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		14.00	4.81	4.81	4.81				
	6-10	3.00	1.03	1.03	85.22				
	11-15	14.00	4.81	4.81	9.62				
	16-20	20.00	6.87	6.87	16.49				
	21-30	44.00	15.12	15.12	31.62				
	31-40	44.00	15.12	15.12	46.74				
	41-50	58.00	19.93	19.93	66.67				
	51-60	51.00	17.53	17.53	84.19				
	61-70	27.00	9.28	9.28	94.50				
	71-80	14.00	4.81	4.81	99.31				
	81-100	2.00	0.69	0.69	100.00				
	Total	291.00	100.00	100.00					
sex									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		5.00	1.72	1.72	1.72				
	f	147.00	50.52	50.52	52.23				
	m	139.00	47.77	47.77	100.00				
	Total	291.00	100.00	100.00					
side									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	bilateral	3.00	1.03	1.03	1.03				
	left	104.00	35.74	35.74	36.77				
	midline	90.00	30.93	30.93	67.70				
	right	78.00	26.80	26.80	94.50				
	undefined	16.00	5.50	5.50	100.00				
	Total	291.00	100.00	100.00					
arteries									
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	ACA	12.00	4.12	4.12	4.12				
	AcomA	29.00	9.97	9.97	14.09				
	AICA	1.00	0.34	0.34	14.43				
	BA	58.00	19.93	19.93	34.36				
	CBAN	7.00	2.41	2.41	36.77				
	ICA	47.00	16.15	16.15	52.92				
	MCA	97.00	33.33	33.33	86.25				
	PCA	8.00	2.75	2.75	89.00				
	PcomA	7.00	2.41	2.41	91.41				
	SCA	2.00	0.69	0.69	92.10				
	VA	23.00	7.90	7.90	100.00				
	Total	291.00	100.00	100.00					
rupture									
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid		3.00	1.03	1.03	1.03				
	n	73.00	25.09	25.09	26.12				
	y	215.00	73.88	73.88	100.00				
	Total	291.00	100.00	100.00					

Cases of cerebral aneurysms in all age (i.e., >15 months to 89 years) & year year>=1900 (McDonald & Korb 1939)

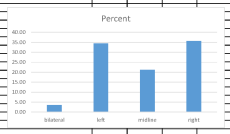
Statistics									
		age	age range	sex	side	arteries	rupture	arterial condition	
N	Valid	616.00	787.00	787.00	787.00	787.00	787	787.00	
	Missing	171.00	0.00	0.00	0.00	0.00	0	0.00	
Mean		41.12							
Median		41.00							
Mode		41.00							
Std. Deviation		17.88							
Minimum		1.50							
Maximum		89.00							
Percentiles	25	29.00							
	50	41.00							
	75	53.00							

Frequency Table

age range						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid		171.00	21.73	21.73	21.73	
	0-5	21.00	2.67	2.67	24.40	
	6-10	11.00	1.40	1.40	88.18	
	11-15	14.00	1.78	1.78	26.18	
	16-20	32.00	4.07	4.07	30.24	
	21-30	99.00	12.58	12.58	42.82	
	31-40	113.00	14.36	14.36	57.18	
	41-50	140.00	17.79	17.79	74.97	
	51-60	93.00	11.82	11.82	86.79	
	61-70	63.00	8.01	8.01	96.19	
	71-80	21.00	2.67	2.67	98.86	
	81-100	9.00	1.14	1.14	100.00	
	Total	787.00	100.00	100.00		

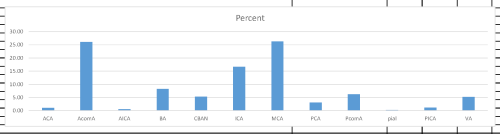


sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		20.00	2.54	2.54	2.54
	f	410.00	52.10	52.10	54.64
	m	357.00	45.36	45.36	100.00
	Total	787.00	100.00	100.00	



side					
	sides	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	28.00	3.56	3.56	3.56
	left	271.00	34.43	34.43	37.99
	midline	167.00	21.22	21.22	59.21
	right	280.00	35.58	35.58	94.79
	undefined	41.00	5.21	5.21	100.00
	Total	787.00	100.00	100.00	

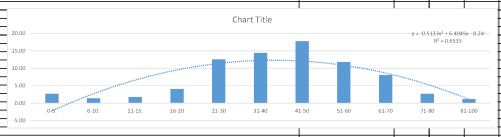
arteries					
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	8.00	1.02	1.02	1.02
	AcomA	205.00	26.05	26.05	27.06
	AICA	4.00	0.51	0.51	27.57
	BA	65.00	8.26	8.26	35.83
	CBAN	42.00	5.34	5.34	41.17
	ICA	131.00	16.65	16.65	57.81
	MCA	207.00	26.30	26.30	84.12
	PCA	24.00	3.05	3.05	87.17
	PcomA	49.00	6.22	6.23	93.39
	pial	2.00	0.25	0.25	93.65
	PICA	9.00	1.14	1.14	94.79
	VA	41.00	5.21	5.21	100.00
	Total	787.00	100.00	100.00	



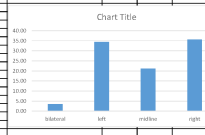
rupture				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	49.00	6.23	6.23	6.23
n	112.00	14.23	14.23	20.46
y	626.00	79.54	79.54	100.00
Total	787.00	100.00	100.00	

Cases of cerebral aneurysms in all age (i.e., >15 months to 89 years) & year yearyear>= 1900 to 1938 (McDonald & Korb 1939)

Statistics								
		age	age range	sex	side	arteries	rupture	arterial condition
N	Valid	616.00	787.00	787.00	787.00	787.00	787	787.00
	Missing	171.00	0.00	0.00	0.00	0.00	0	0.00
Mean		41.12						
Median		41.00						
Mode		41.00						
Std. Deviation		17.88						
Minimum		1.50						
Maximum		89.00						
Percentiles	25	29.00						
	50	41.00						
	75	53.00						

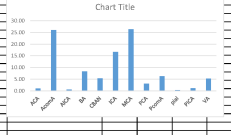


age range					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		171.00	21.73	21.73	21.73
	0-5	21.00	2.67	2.67	24.40
	6-10	11.00	1.40	1.40	88.18
	11-15	14.00	1.78	1.78	26.18
	16-20	32.00	4.07	4.07	30.24
	21-30	99.00	12.58	12.58	42.82
	31-40	113.00	14.36	14.36	57.18
	41-50	140.00	17.79	17.79	74.97
	51-60	93.00	11.82	11.82	86.79
	61-70	63.00	8.01	8.01	96.19
	71-80	21.00	2.67	2.67	98.86
	81-100	9.00	1.14	1.14	100.00
	Total	787.00	100.00	100.00	

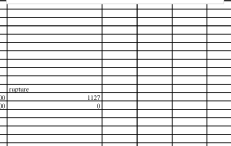


sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		20.00	2.54	2.54	2.54
	f	410.00	52.10	52.10	54.64
	m	357.00	45.36	45.36	100.00
	Total	787.00	100.00	100.00	

side					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	28.00	3.56	3.56	3.56
	left	271.00	34.43	34.43	37.99
	midline	167.00	21.22	21.22	59.21
	right	280.00	35.58	35.58	94.79
	undefined	41.00	5.21	5.21	100.00
	Total	787.00	100.00	100.00	



arteries					
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	8.00	1.02	1.02	1.02
	AcomA	205.00	26.05	26.05	27.06
	AICA	4.00	0.51	0.51	27.57
	BA	65.00	8.26	8.26	35.83
	CBAN	42.00	5.34	5.34	41.17
	ICA	131.00	16.65	16.65	57.81
	MCA	207.00	26.30	26.30	84.12
	PCA	24.00	3.05	3.05	87.17
	PcomA	49.00	6.22	6.23	93.39
	pial	2.00	0.25	0.25	93.65
	PICA	9.00	1.14	1.14	94.79
	VA	41.00	5.21	5.21	100.00
	Total	787.00	100.00	100.00	



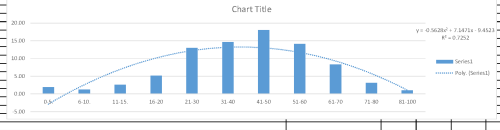
rupture				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	49.00	6.23	6.23	6.23
n	112.00	14.23	14.23	20.46
y	626.00	79.54	79.54	100.00
Total	787.00	100.00	100.00	

All 1127 cases of cerebral aneurysms in all age (i.e., >15 months to 89 years) & year year>= 1761 to 1938 (McDonald & Korb 1939)

Statistics								
		age	age range	sex	side	arteries	rupture	
N	Valid	935.00	1127.00	1127.00	1127.00	1127.00	1127	
	Missing	192.00	0.00	0.00	0.00	0.00	0	
Mean		41.69						
Median		41.00						
Mode		41.00						
Std. Deviation		17.69						
Minimum		1.50						
Maximum		89.00						
Percentiles	25	29.00						
	50	41.00						
	75	54.00						

Frequency Table

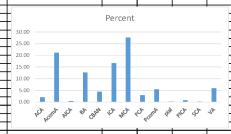
age range					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		192.00	17.04	17.04	17.04
	0-5	21.00	1.86	1.86	18.90
	6-10	14.00	1.24	1.24	87.58
	11-15	29.00	2.57	2.57	21.47
	16-20	58.00	5.15	5.15	26.62
	21-30	146.00	12.95	12.95	39.57
	31-40	165.00	14.64	14.64	54.21
	41-50	203.00	18.01	18.01	72.23
	51-60	159.00	14.11	14.11	86.34
	61-70	94.00	8.34	8.34	95.92
	71-80	35.00	3.11	3.11	99.02
	81-100	11.00	0.98	0.98	100.00
	Total	1127.00	100.00	100.00	



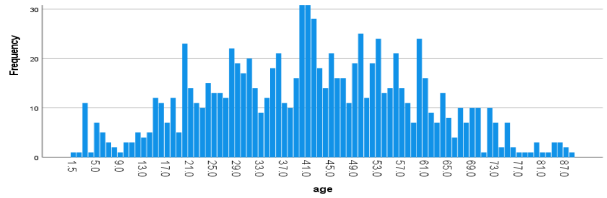
sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		28.00	2.48	2.48	2.48
	f	572.00	50.84	50.84	53.33
	m	526.00	46.67	46.67	100.00
	Total	1127.00	100.00	100.00	

side					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bilateral	33.00	2.93	2.93	2.93
	left	386.00	34.25	34.25	37.18
	midline	279.00	24.76	24.76	61.93
	right	367.00	32.56	32.56	94.50
	undefined	62.00	5.50	5.50	100.00
	Total	1127.00	100.00	100.00	

arteries					
	arteries involved	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ACA	22.00	1.95	1.95	1.95
	AcomA	237.00	21.03	21.03	22.98
	AICA	5.00	0.44	0.44	23.43
	BA	142.00	12.60	12.60	36.02
	CBAN	49.00	4.35	4.35	40.37
	ICA	187.00	16.59	16.59	56.97
	MCA	311.00	27.60	27.60	84.56
	PCA	33.00	2.93	2.93	87.49
	PcomA	61.00	5.41	5.41	92.90
	pial	2.00	0.18	0.18	93.08
	PICA	9.00	0.80	0.80	93.88
	SCA	2.00	0.18	0.18	94.06
	VA	67.00	5.94	5.94	100.00
	Total	1127.00	100.00	100.00	

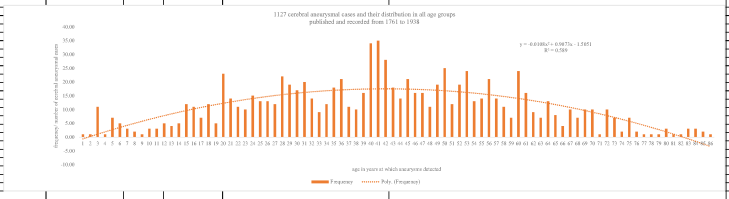


rupture				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	54.00	4.79	4.79	4.79
n	198.00	17.57	17.57	22.36
y	875.00	77.64	77.64	100.00
Total	1127.00	100.00	100.00	



		2.00	1.00	0.10	0.10
		3.00	11.00	1.00	1.20
		4.00	1.00	0.10	0.10
		5.00	7.00	0.60	0.70
		6.00	5.00	0.40	0.50
		7.00	3.00	0.30	0.30
		8.00	2.00	0.20	0.20
		9.00	1.00	0.10	0.10
		10.00	3.00	0.30	0.30
		11.00	3.00	0.30	0.30
		12.00	5.00	0.40	0.50
		13.00	4.00	0.40	0.40
		14.00	5.00	0.40	0.50
		15.00	12.00	1.10	1.30
		16.00	11.00	1.00	1.20
		17.00	7.00	0.60	0.70
		18.00	12.00	1.10	1.30
		19.00	5.00	0.40	0.50
		20.00	23.00	2.00	2.50
		21.00	14.00	1.20	1.50
		22.00	11.00	1.00	1.20
		23.00	10.00	0.90	1.10
		24.00	15.00	1.30	1.60
		25.00	13.00	1.20	1.40
		26.00	13.00	1.20	1.40
		27.00	12.00	1.10	1.30
		28.00	22.00	2.00	2.40
		29.00	19.00	1.70	2.00
		30.00	17.00	1.50	1.80
		31.00	20.00	1.80	2.10
		32.00	14.00	1.20	1.50
		33.00	9.00	0.80	1.00
		34.00	12.00	1.10	1.30
		35.00	18.00	1.60	1.90
		36.00	21.00	1.90	2.20
		37.00	11.00	1.00	1.20
		38.00	10.00	0.90	1.10
		39.00	16.00	1.40	1.70
		40.00	34.00	3.00	3.60
		41.00	35.00	3.10	3.70
		42.00	28.00	2.50	3.00
		43.00	18.00	1.60	1.90
		44.00	14.00	1.20	1.50
		45.00	21.00	1.90	2.20
		46.00	16.00	1.40	1.70
		47.00	16.00	1.40	1.70
		48.00	11.00	1.00	1.20
		49.00	19.00	1.70	2.00
		50.00	25.00	2.20	2.70
		51.00	12.00	1.00	1.30
		52.00	19.00	1.70	2.00
		53.00	24.00	2.10	2.60
		54.00	13.00	1.20	1.40
		55.00	14.00	1.20	1.50
		56.00	21.00	1.90	2.20
		57.00	14.00	1.20	1.50
		58.00	11.00	1.00	1.20
		59.00	7.00	0.60	0.70
		60.00	24.00	2.10	2.60
		61.00	16.00	1.40	1.70
		62.00	9.00	0.80	1.00
		63.00	7.00	0.60	0.70
		64.00	13.00	1.20	1.40
		65.00	8.00	0.70	0.90
		66.00	4.00	0.40	0.40
		67.00	10.00	0.90	1.10
		68.00	7.00	0.60	0.70
		69.00	10.00	0.90	1.10
		70.00	10.00	0.90	1.10
		71.00	1.00	0.10	0.10
		72.00	10.00	0.90	1.10
		73.00	7.00	0.60	0.70
		74.00	2.00	0.20	0.20
		75.00	7.00	0.60	0.70
		76.00	2.00	0.20	0.20
		77.00	1.00	0.10	0.10
		78.00	1.00	0.10	0.10
		79.00	1.00	0.10	0.10
		80.00	3.00	0.30	0.30
		81.00	1.00	0.10	0.10
		83.00	1.00	0.10	0.10
		84.00	3.00	0.30	0.30
		86.00	3.00	0.30	0.30
		87.00	2.00	0.20	0.20
		89.00	1.00	0.10	0.10
	Total		935.00	83.00	100.00
Missing	System		192.00	17.00	
Total			1127.00	100.00	

Age in years	Frequency
1.50	1.00
2.00	1.00
3.00	11.00
4.00	1.00
5.00	7.00
6.00	5.00
7.00	3.00
8.00	2.00
9.00	1.00
10.00	3.00
11.00	3.00
12.00	5.00
13.00	4.00
14.00	5.00
15.00	12.00
16.00	11.00
17.00	7.00
18.00	12.00
19.00	5.00
20.00	23.00
21.00	14.00
22.00	11.00
23.00	10.00
24.00	15.00
25.00	13.00
26.00	13.00
27.00	12.00
28.00	22.00
29.00	19.00
30.00	17.00
31.00	20.00
32.00	14.00
33.00	9.00
34.00	12.00
35.00	18.00
36.00	21.00
37.00	11.00
38.00	10.00
39.00	16.00
40.00	34.00
41.00	35.00
42.00	28.00
43.00	18.00
44.00	14.00
45.00	21.00
46.00	16.00
47.00	16.00
48.00	11.00
49.00	19.00
50.00	25.00
51.00	12.00
52.00	19.00
53.00	24.00
54.00	13.00
55.00	14.00
56.00	21.00
57.00	14.00
58.00	11.00
59.00	7.00
60.00	24.00
61.00	16.00
62.00	9.00
63.00	7.00
64.00	13.00
65.00	8.00
66.00	4.00
67.00	10.00
68.00	7.00
69.00	10.00
70.00	10.00
71.00	1.00
72.00	10.00
73.00	7.00
74.00	2.00
75.00	7.00
76.00	2.00
77.00	1.00
78.00	1.00
79.00	1.00
80.00	3.00
81.00	1.00
83.00	1.00
84.00	3.00
86.00	3.00
87.00	2.00
89.00	1.00



Supplementary File 2: Statistical parameters of distributions of aneurysmal cases reported from 1761-1938,[14] and recorded in RAH from 2011 to 2019.

		102 patients with cerebral aneurysmal aneurysms recorded in RAH from 2011 to 2019	1127 patients with cerebral aneurysms recorded in 407 publications - published from 1761 to 1938							
Statistics - all cases with cerebral aneurysms		age>18, 2011 to 2019	age>18 years, 1761 to 1938	age >= 18 & year < 1850	age >= 18 & year >= 1850 & year < 1900	age >= 18 & year >= 1900	all age, year <1850	all age, year < 1900 & year >= 1850	all ages, year >= 1900	all age group, all years, >400 publications
Age in years										
N	Valid	102	851	41	252	560	42	278	613	935
	Missing	0	0	0	0	0	7	14	171	192
Mean age		57.6	44.7	44.3	45.6	44.3	43.6	42.6	41.2	41.7
Median age		60.0	43.0	47.0	45.0	42.0	46.0	43.0	41.0	41.0
Mode age		48.0	41.0	20.0	40.0	41.0	20.0	40.0	41.0	41.0
Std. Deviation		13.1	15.5	15.6	15.6	15.4	16.1	17.5	17.9	17.7
Minimum age		18.0	18.0	19.0	18.0	18.0	14.0	6.0	1.5	1.5
Maximum age		83.0	89.0	68.0	86.0	89.0	68.0	86.0	89.0	89.0
Percentiles	25	48.0	32.0	33.5	33.3	32.0	31.8	28.8	29.0	29.0
	50	60.0	43.0	47.0	45.0	42.0	46.0	43.0	41.0	41.0
	75	68.3	56.0	59.0	56.0	55.0	59.0	56.0	53.0	54.0

Legend: 14 = McDonald, CA & Korb, M 1939, Intracranial aneurysms, Archives of neurology and psychiatry (Chicago), vol. 42, no. 2, pp. 298-328.

Supplementary file 3: contains type 2 data: The Human Ethics permit (approval number: H2014-176, Research Ethics Committee, Office of Research Ethics, Compliance and Integrity, Faculty of Health Sciences, University of Adelaide) granted permission to access and use the deidentified data set from the Carestream data registry system (Vue-RIS-version-11·0·14·35) for research

Manuscript title: The trend of cerebral aneurysms over the past two centuries: Need for early screening - An observational study.

Type 2 data were Cerebral computed tomography angiography images obtained from 173 randomly selected patients, who visited the Royal Adelaide Hospital (RAH) between January 2011 and December 2019 for a variety of cranial pathologies

Abbreviations: cases with cerebral aneurysms=y, cases without cerebral aneurysms=n; cases without cerebral aneurysms = y, cases with cerebral aneurysms = n; aneurysmal only cases = y, cases withour aneurysms = n; AcomAC An = aneurysms at anterior communicating artery; n= no, y=yes

complex (AcomAC) region, y=yes and n=no; aneurysms elasewhere otherthan in the AcomAC region, y = yes and n=no; aneurysms elasewhere otherthan in the AcomAC region = y = yes and n=no; rt ICA an = aneurysms in right internal carotid artery (rt ICA) region; rt MCA an = aneurysms in right middle cerebral artery region;

rt ICA + MCA an = aneurysms in right internal carotid and middle cerebral arterial region; lft ICA an = aneurysms in left internal carotid artery (lft ICA) region; lft MCA an =aneurysms in left middle cerebral artery region; lft ICA + MCA an =aneurysms in left internal carotid and middle cerebral arterial region;

right P2 an =aneurysm in the 2nd part of right posterior cerebral artery; left P2 an =aneurysm in the 2nd part of the left posterior cerebral artery; VB an = aneurysm in vertebro basilarregion; rt PICA an = aneurysms in the right posterior inferior cerebellar (rt PICA) region;

lft PICA an = aneurysms in the left posterior inferior cerebellar (lft PICA) region; rt VA an =aneurysms in the right vertebral artery (rt VA); BA an =aneurysms in the basilar artery region; rt SCA = aneurysms in the right superior cerebellar region; lft SCA an =aneurysms in the left superior cerebellar region

age range	Sex	cases with cerebral aneurysms=y,	cases without cereb	aneurysmal only cases =	AcomAC An	aneurysms elasewhere otherthan in the AcomAC region = y =	rt ICA an	rt MCA an =	rt ICA + MCA an	lft ICA an =	lft MCA an	lft ICA + MCA an =	right P2 an	left P2 an	VB an	rt PICA an	lft PICA an	rt VA an =	lft VA an =	BA an =an	rt SCA an	lft SCA =aneurysms in the left superior cerebellar region
15-20	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
15-20	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
31-40	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
31-40	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	f	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
15-20	f	y	n	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21-30	m	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
21-30	m	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
31-40	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
31-40	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
31-40	m	y	n	y	n	y	n	n	n	y	n	y	n	n	n	n	n	n	n	n	n	n
31-40	f	y	n	y	n	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
31-40	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
31-40	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	y	n	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	n	n	y	n	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	n	y	n	n	n	y	n	y	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	n	n	y	y	y	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	y	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	n	n	n	n	y	y	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	y	y	y	y	n	y	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	n	y	n	n	n	y	n	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	y	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	y	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	y	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	y	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
41-50	m	y	n	y	n	y	n	n	n	n	n	n	n	n	y	n	n	n	y	n	n	n
41-50	f	y	n	y	y	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	y	n	y	y	n	y	n	n	n	n	n	n	n	n	n	n
51-60	m	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
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51-60	m	y	n	y	n	y	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
51-60	m	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
51-60	f	y	n	y	n	y	n	n	n	y	y	y	n	n	n	n	n	n	n	n	n	n
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51-60	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
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51-60	f	y	n	y	y	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
61-70	m	y	n	y	n	y	n	n	n	y	n	y	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	n	y	n	y	y	n	y	y	n	n	y	n	n	n	n	n	n	y
61-70	m	y	n	y	n	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
61-70	m	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	n	y	n	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n
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61-70	f	y	n	y	n	y	n	y	n	n	y	y	n	n	n	n	n	n	n	n	n	n
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61-70	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
61-70	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
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61-70	f	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
61-70	m	y	n	y	y	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	y	n	y	n	y	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	y	n	y	n	y	n	n	n	n	n	n	n	n	y	n	y	n	n	n	n	n
71-80	f	y	n	y	y	y	y	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	y	n	y	n	y	y	n	y	y	n	y	n	n	y	n	n	n	y	n	n	n

71-80	f	y	n	y	n	y	n	n	n	n	y	y	n	n	n	n	n	n	n	n	n	n
71-80	f	y	n	y	n	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	f	y	n	y	n	y	n	n	n	n	n	n	n	n	y	n	n	n	n	y	n	n
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71-80	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
71-80	m	y	n	y	n	y	n	n	n	n	n	n	n	n	y	n	n	n	n	y	n	n
81-100	m	y	n	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
81-100	m	y	n	y	y	n	n	n								n	n	n	n	n	n	n

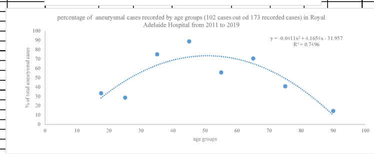
Count, cases with aneurysms= y, cases without aneurysms= n

Crosstab

		cases with aneurysms=y, without aneurysms = n		Total	% of aneurys	average age	%aneurysms
		n	y				
age range	15-20	2	1	3	33.33	17.50	33.33
	21-30	5	2	7	28.57	25.00	28.57
	31-40	2	6	8	75.00	35.00	75.00
	41-50	3	24	27	88.89	45.00	88.89
	51-60	16	20	36	55.56	55.00	55.56
	61-70	15	36	51	70.59	65.00	70.59
	71-80	16	11	27	40.74	75.00	40.74
	81-100	12	2	14	14.29	90.00	14.29
Total		71	102	173	58.96		

Statistics

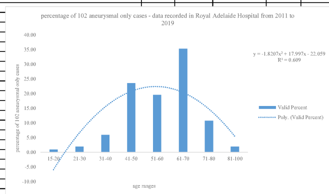
			Age in years	age range
N	Valid		173	173
	Missing		0	0
Mean			60.05	
Std. Error of Mean			1.196	
Median			62	
Std. Deviation			15.725	
Minimum			18	
Maximum			100	



cases with aneurysms=y, without aneurysms

		Frequency	Percent	Valid Percen	Cumulative Percent	
Valid	n	71	41	41		41
	y	102.00	59.00	59.00		100.00
	Total	173.00	100.00	100.00		

Valid		
	21-30.	2.00
	31-40.	6.00
	41-50.	24.00
	51-60.	20.00
	61-70.	36.00
	71-80.	11.00
	81-100.	2.00
Total cases with aneurysms		101.00



age range years	Cases with cerebral aneurysms	Percent	Valid Percent	Cumulative Percent
15-20	1.00	0.98	0.98	0.98
21-30	2.00	1.96	1.96	2.94
31-40	6.00	5.88	5.88	8.82
41-50	24.00	23.53	23.53	32.35
51-60	20.00	19.61	19.61	51.96
61-70	36.00	35.29	35.29	87.25
71-80	11.00	10.78	10.78	98.04
81-100	2.00	1.96	1.96	100.00
Total	102.00	100.00	100.00	

102 cases with aneurysms		Age in years			
N	Valid	102.00			
	Missing	0.00			
	Mean	57.60		Mean	57.60
	Median	60.00		median	60.00
	Std. Deviation	13.12		SD	13.12
	Minimum	18.00		min	18.00
	Maximum	83.00		max	83.00

Sex

		cases with cerebral aneurysms	Percent	Valid Percent	Cumulative Percent
Valid	f	58.00	56.86	56.86	56.86
	m	44.00	43.14	43.14	100.00
	Total	102.00	100.00	100.00	

cases with aneurysms=y

Aneurysmal only cases = y, cases withour aneurysms = n

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	y	102.00	100.00	100.00	100.00
	n	72.00			

AcomAC An = aneurysms at anterior communicating artery complex (AcomAC) region, y=yes and n=no

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	69.00	67.65	67.65	67.65
	y	33.00	32.35	32.35	100.00
	Total	102.00	100.00	100.00	

aneurysms elasewhere otherthan in the AcomAC region = y = yes and n=no

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	23.00	22.55	22.55	22.55
	y	79.00	77.45	77.45	100.00
	Total	102.00	100.00	100.00	

rt ICA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	85.00	83.33	83.33	83.33
	y	17.00	16.67	16.67	100.00
	Total	102.00	100.00	100.00	

rt MCA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	64.00	62.75	62.75	62.75
	y	38.00	37.25	37.25	100.00
	Total	102.00	100.00	100.00	

rt ICA + MCA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	52.00	50.98	50.98	50.98
	y	50.00	49.02	49.02	100.00
	Total	102.00	100.00	100.00	

lft ICA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	90.00	88.24	88.24	88.24
	y	12.00	11.76	11.76	100.00
	Total	102.00	100.00	100.00	

lft MCA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	75.00	73.53	73.53	73.53
	y	27.00	26.47	26.47	100.00
	Total	102.00	100.00	100.00	

lft ICA + MCA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	65.00	63.73	63.73	63.73
	y	37.00	36.27	36.27	100.00
	Total	102.00	100.00	100.00	

right P2 an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	102.00	100.00	100.00	100.00

left P2 an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	102.00	100.00	100.00	100.00

VB an = vertebro basilar aneurysm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	94.00	92.16	92.16	92.16
	y	8.00	7.84	7.84	100.00
	Total	102.00	100.00	100.00	

rt PICA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	101.00	99.02	99.02	99.02
	y	1.00	0.98	0.98	100.00
	Total	102.00	100.00	100.00	

lft PICA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	101.00	99.02	99.02	99.02
	y	1.00	0.98	0.98	100.00
	Total	102.00	100.00	100.00	

rt VA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	102.00	100.00	100.00	100.00

lft VA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	99.00	97.06	97.06	97.06
	y	3.00	2.94	2.94	100.00
	Total	102.00	100.00	100.00	

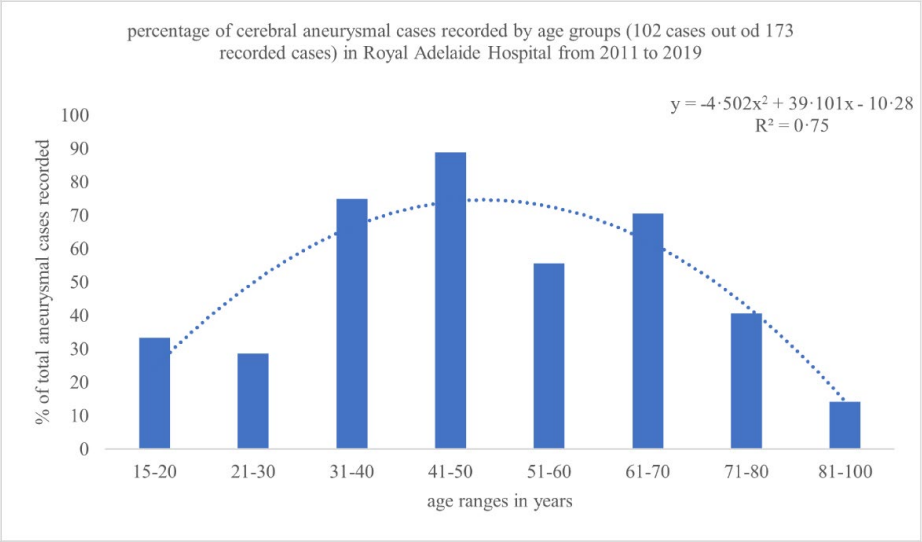
BA an

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	n	100.00	98.04	98.04	98.04
	y	2.00	1.96	1.96	100.00
	Total	102.00	100.00	100.00	

rt SCA an

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	n	102.00	100.00	100.00	100.00	
lft SCA an						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	n	101.00	99.02	99.02	99.02	
	y	1.00	0.98	0.98	100.00	
	Total	102.00	100.00	100.00		
age range-	patients with (n=102) and without aneurysms (n=71) included in the study					
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	15-20	3.00	1.70	1.70	1.70	
	21-30	7.00	4.00	4.00	5.80	
	31-40	8	4.6	4.6	10.4	
	41-50	27	15.6	15.6	26	
	51-60	36	20.8	20.8	46.8	
	61-70	51	29.5	29.5	76.3	
	71-80	27	15.6	15.6	91.9	
	81-100	14	8.1	8.1	100	
	Total	173	100	100		
Sex						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	f	90	52	52	52	
	m	83	48	48	100	
	Total	173	100	100		



Supplementary File 4: The prevalence (%) of cerebral aneurysms observed over a broad age range (18-100 years, n=173, cases with aneurysms=102, cases without aneurysm=71), with a median of 62 years, a mean of 60 years, and a standard deviation of 15.75, is shown in the chart. The peak prevalence occurs between 31-60 years ($p<0.001$).