

Kirkpatrick (*Transactions of the Association of American Physicians*, 1895, vol. x. p. 92): Male, aged twenty-one years; Canada; ten years' chronicity, right side of the body. Hyde and Senn (*Journal of Cutaneous and Genito-urinary Diseases*, New York, 1896, vol. xiv. p. 1): Male, aged twenty years; United States; thirteen years' chronicity, left side of the body. Pope and Lamh (*New York Medical Journal*, 1896, vol. lxiv. p. 386): Male, aged twenty-seven years; Texas; eight years' chronicity, right side of the body. Wright (*Transactions of the Association of American Physicians*, 1898, vol. xiii. p. 471): Female, aged twenty-six years; Italy and United States; six months' chronicity, left side of the body. Arwiae and Lamh: Male; aged forty-five years; Texas; twelve years' chronicity, left side of the body.

It is probable, as suggested by Prof. Adami, of Montreal, that a careful examination of museums would disclose additional specimens; it is probable, also, that many cases of this disease have been erroneously diagnosed as elephantiasis. Inasmuch as the two American cases in possession of the Army Medical Museum came from Texas, it would seem likely that that section of country would be an inviting field for research. Since, also, in India at least, the disease is found almost exclusively among the peasantry who go barefoot on the soft-ploughed ground, tropical and semi-tropical America ought, theoretically, to furnish many more cases than the few which have been reported.

The subject has been written up so fully by previous reporters that it seems unnecessary to do more than refer to their papers.

SOME FACTS IN REGARD TO ANEURISM OF THE AORTA.

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THE occurrence of a number of cases of aortic aneurism in the practice of one of us (Hare) has led us to the study of the literature of this subject, with the object of determining certain statistical points in connection with this very interesting pathological condition, and we have analyzed the histories of 953 cases, taken at random from the reports of the clinicians in this country and abroad.¹

We have not attempted to make a study of the relative frequency of aneurism in the thoracic aorta as compared to aneurism of vessels in

¹ These statistics are taken from London Hospital Reports, the Transactions of the Pathological Society of London, the New York Pathological Society, the Philadelphia Pathological Society, and files of current periodicals, and not from any series of cases previously collected.

other portions of the body, but our endeavor has been to obtain information concerning the most common location for the development of the growth, its usual cause, the direction of its development, the frequency of the disease in the two sexes, the symptoms most commonly produced by aneurismal growths in different situations in which they occur, and the most common cause of death. In connection with these important topics we have also collected information in regard to other matters of almost equal interest.

In order that our study may be as clear as possible, we have divided the aorta, as it is commonly divided, into the ascending, transverse, and descending portions of the arch, making a fourth division of that portion of the aorta which extends from the descending portion of the arch to its point of exit from the thorax through the diaphragm.

It is a well-known fact, that syphilis and alcohol, or perhaps hereditary weakness of the arterial walls, are particularly prone to result in aortic aneurism in persons who are subjected to violent vascular strains, or whose vessels present beginning degenerative changes due to advancing years, it being remembered that the old saying "A man is as old as his arteries" holds true in this connection, for syphilis and alcohol may produce changes in the bloodvessels at comparatively early periods of life, which correspond somewhat to those which are seen many years later in perfectly healthy individuals.

It is also a well-recognized fact in the literature of aneurism that the majority of these growths are saccular rather than fusiform.

We have collected from medical literature 570 cases of aneurism of the *ascending portion of the arch*. Of these, 544 were sacculated and 466 occurred in males and 78 in females. The remaining 26 cases were fusiform, and all of these 26 aneurisms occurred in males. These statistics seem to us of interest as confirming the general opinion in regard to this lesion, and emphasize very forcibly the far greater frequency of sacculated aneurism than the fusiform variety. When we consider that of nearly 1000 cases analyzed, aneurism of the ascending arch occurred no less than 570 times, while aneurism of the transverse arch occurred only 104 times, and of the descending portion 110 times, the great difference in frequency is marked.

Of the 466 cases of sacculated aneurism occurring in males, it is interesting to note that the great majority of them occurred in persons between thirty-five and forty-five years of age; that the next greatest frequency was in persons between twenty-five and thirty-five, then between forty-five and fifty-five, and so on down, as is shown in the accompanying table:

	15 to 25	25 to 35	35 to 45	45 to 55	55 to 70	Total.
Males . . .	26	100	170	86	21	401
Females . . .	2	14	30	16	10	72
Unknown . . .	—	—	—	—	—	69

The statistics in regard to fusiform aneurism affecting the ascending portion of the arch are not sufficiently clear to enable us to reach such positive conclusions, thus:

No cases were found between the ages of									
8	"	"	"	"	"	"	"	25	35
7	"	"	"	"	"	"	"	35	45
4	"	"	"	"	"	"	"	45	55
3	"	"	"	"	"	"	"	55	70

The sex was stated in 22 cases; in the remaining 4 of the 26 no statement as to sex was made. No case is stated to have occurred in a female.

Passing on to the consideration of the most common cause of aneurism of this portion of the arch, we find among the males that no less than 30 patients were considered to be perfectly healthy as far as any causative disease was concerned; that 28 had a history of syphilis; that 45 suffered from alcoholism, and 3 of these 45 had as an additional history of exposure to trauma; 17 are said to have been due to rheumatism; 4 to syphilis and alcohol combined; 47 to trauma, and in the remaining 295 no statement as to the probable cause of the disease was made.

It is interesting in this connection to note that alcohol was considered the cause in such a large majority of the cases, almost equalling trauma in frequency, and it seems to us also of interest that syphilis is reported as the cause in but 28 cases—in other words, falling far below alcoholism in importance as a cause-factor.

Among the females we find that but 3 were considered healthy; that 4 had syphilis, although 1 of these 4 gave a doubtful syphilitic history; 6 suffered from alcoholism, 1 of these being also doubtfully syphilitic; 5 had rheumatism; in none were syphilis and alcoholism associated; 25 were ascribed to trauma, and in 35 the cause was unstated. The number of cases recorded in females is, once again, too small to enable us to reach positive conclusions; but it is interesting to note that in this sex also trauma far exceeds all other causes in the production of the disease, and that alcoholism and syphilis, while far below trauma in importance in producing the lesion, are the next most frequent causes.

Another interesting fact worthy of attention is that syphilis and alcoholism are ascribed as the cause in a very small percentage of cases in females as compared to males.

In the fusiform variety it is stated that 6 of the males were healthy; in none of them was syphilis considered the cause of the disease; in 2 alcoholism was given as the cause; trauma was the cause in 4, syphilis and alcohol in 1, and in 13 no statement as to the cause was made.

Death occurs as a result of aneurism of the aorta either from rupture of the aneurismal sac, from the pressure of the sac upon important

nerves and bloodvessels, or from the secondary changes which take place in these tissues and in other vital organs as a direct or indirect result of such pressure. Among the causes of death other than rupture is the sacculated variety of aneurism of the ascending portion of the arch, it is interesting to note that dyspnoea is described as the most common cause, death being due to this condition, according to the reports, in 17 cases. The next most common cause is stated to be exhaustion, which produced death in 15 cases; serous pleural effusion resulted in death in 12; serous pericardial effusion in 7; suffocation is stated to have been the cause of 7, while only 2 are thought to have been due to congestion of the lungs, 2 to pneumonia from pressure, 2 from bronchitis, 2 from exhaustion due to leakage from the aneurism; 2 are credited to apoplexy of the lung, 2 to pleurisy, 1 to pleural pneumonia, 1 to suffocation from pressure on the trachea.

Among the females 9 are said to have died of exhaustion, 1 from abscess of the lung, 3 from dyspnoea, although in all probability 1 of these cases was due to rupture, since the external tumor suddenly disappeared just before death, but no autopsy was permitted to determine that it had ruptured.

Among the fusiform aneurisms 3 of the males are stated to have died of exhaustion, and 5 from excessive dyspnoea, the balance, of course, being from rupture.

When we come to the consideration of the direction in which sacculated aneurisms of the ascending arch most commonly rupture, or, in other words, when we study the neighboring tissues into which the blood forces its way when the wall of the aneurism bursts, we find that the vast majority rupture into the pericardium. Thus out of 289 cases in which death was stated to have been due to rupture in males, 75 ruptured into the pericardium and 58 into the pulmonary artery; 23 ruptured into the right auricle, 3 of these taking place some time before death; 23 ruptured externally; 14 ruptured into the superior vena cava; 11 into the oesophagus; 9 into the left auricle; 8 into the right ventricle; 8 into the trachea; 6 into the left ventricle; 6 into the left pleura, and 5 into the right lung; 3 burst in the posterior mediastinum, and 1 burst simultaneously into the trachea and oesophagus; in 20 others no statement was made as to the direction of the rupture.

There are a number of interesting facts in connection with the points which we have named. Among these it is stated that 35 of the 71 cases which ruptured into the pericardium were aneurisms of the dissecting variety, and that one of them had an ulcer on an aortic leaflet; but still more interesting is the fact that 1 of the 58 cases which ruptured into the pulmonary artery lived for four months after the rupture took place; another lived for two months, that another lived three hours, and that two lived "several" hours, showing that the false cir-

culatioa was established without sufficient disorder to the general circulation to produce death, and that the inflammatory adhesion of the aneurismal sac to the pulmonary artery was sufficiently strong to retain the blood in the circulatory system. Of the 23 cases which ruptured into the right auricle we also find that the rupture occurred in 3 of these some time before death took place, and that in 3 of the cases which ruptured into the right ventricle death was gradual. In 1 of the cases which ruptured into the left auricle the statement is made that death resulted not from the hemorrhage directly but from anæmia of the vital centres, due to the diverted blood-stream.

In the cases which ruptured into the superior vena cava death occurred in 2 instances slowly, and in 3 of those which ruptured externally the oozing was gradual before death occurred.

Among the females suffering from sacculated aneurism of the ascending arch we find again that the most frequent direction of rupture was into the pericardium. Thus out of 37 cases 24 ruptured into this sac; 5 ruptured externally; 3 burst into the pulmonary artery; 2 into the right ventricle; 1 into the pleura; 1 into the lungs, and still another into a tubercular cavity of the lung; 15 of the 24 cases which ruptured into the pericardium are described as dissecting aneurisms.

In regard to the condition of the aorta in these various cases of rupture in the two sexes, we find the following information: the blood-vessel wall, aside from the aneurismal sac itself, is described in males as being healthy in 11 instances, as atheromatous in 77 instances, and no statement is made as to the condition of this vessel in 378.

Among the females the aorta is described as healthy in 3, atheromatous in 13, and no statement is made in regard to 62 of them.

Of the fusiform aneurisms, we find that but 2 ruptured into the pericardium, 4 into the trachea, 3 into the pulmonary artery, 2 into the œsophagus, and in 2 others no statement is made as to the direction of the rupture. In these cases the aorta is described as healthy in 8, atheromatous in 8, and no statement is made in regard to 18 of them.

As secondary changes in the heart itself very frequently result in cases of aneurism, we have examined into this question with some interest. Among the males we find that the heart is described as healthy in 58 instances and as hypertrophied in 29. In 16 cases the left ventricle is described as hypertrophied, and the aortic valves thickened and incompetent. In 8 other cases the aortic valves are described as thickened, in 10 as incompetent, and in 4 as thickened and incompetent, without there being associated ventricular hypertrophy. In these 4 cases the mitral valves were described as atheromatous; 1 case is stated to have had a dilated left ventricle, with deposits on the aortic valves, 1 had mitral stenosis, 1 suffered from a small left ventricle, but had a very large right ventricle. In 1 hypertrophy and dilatation of

the heart were present, and the aortic valves were destroyed by pressure, and in 1 other cauliflower growths were found on the aortic valves, and these are supposed to have caused the ulceration, and hence the aneurism. In the remaining 313 cases the condition of the heart and valves was not given.

Among the females the aortic valves were reported as being thickened in 6, incompetent in 3, and diseased in 2. The heart is stated to have been healthy in 5. Hydropericardium was present in 1 case, pericardial adhesions in 1 other, and hypertrophy of the heart in 2 other cases. In 58 no statement was made.

In the fusiform aneurisms of this portion of the arch the heart is described as being healthy in 2, dilated in 4, and hypertrophied in 3. Pericardial adhesions were found in 2 instances, and the aortic valves were thickened and atheromatous in 6 instances.

In regard to the pressure-symptoms produced by aneurisms of the ascending portion of the arch, we find that out of 80 cases in which the statement is made in regard to pressure-symptoms, 27 suffered from lividity and œdema of the face, 24 from dyspnoea and pain, 10 from œdema and pain in the neck and arms, 8 from aphonia, 6 from orthopnoea, 3 from vomiting, and 2 from pulmonary œdema.

Among the females lividity and œdema of the face were present in 4 instances, pain and cough in 3, and dyspnoea and cough in 4. Among 12 cases of fusiform aneurism, in which information in regard to pressure-symptoms is given, we find that 5 suffered from general œdema, 2 from general œdema and orthopnoea, 2 from dyspnoea, 2 from pain and aphonia, 2 others from dyspnoea and aphonia, and 1 from dyspnoea, œdema, vomiting, and syncope.

In regard to special symptoms produced by pressure, the following interesting facts were developed concerning inequality of the pulse and pupils:

Among the sacculated aneurisms we find 8 in which it is stated that the right pulse was greater than the left; the left pulse was greater than the right in 4 instances, and in 1 case the left pulse was absent in the axillary, brachial, radial, and carotid arteries. The left pupil was larger than the right in 4 cases, but in 419 cases no statement as to the condition of the pulse and pupils was made either in the male or female sexes.

Information in regard to these points in connection with fusiform aneurism was not obtainable.

Closely connected with this question of pressure-symptoms is the statements which are made in regard to the direction in which the aneurisms develop. In 21 it is stated to have projected downward, in 5 upward, in 17 forward, and in 13 backward; backward and to the left in 3, backward and to the right in 5, to the left alone in 4, and it

is a noteworthy fact that it extended to the right in no less than 60. This direction is that which we would expect from the impact of blood against the aortic wall.

The pressure-symptoms which we have described so far are those which were noted during life. The result of autopsy showed that the growth had pressed upon neighboring organs as follows: In 29 instances the trachea was compressed; in 21 the left lung was disintegrated from pressure on the left bronchus, and in 1 of these the left vagus was "greatly strained." In 17 the aneurism compressed the superior vena cava; in 14 it compressed the pulmonary artery; in 6 the right lung; in 8 it eroded the vertebrae, and in 6 it eroded the ribs and part of the sternum; in 2 others erosion of the clavicle, sternum, and ribs occurred; in 2 the left vagus is stated to have been compressed, but the recurrent laryngeal nerve escaped. In 2 cases the left bronchus was ulcerated and the vertebrae eroded; in 3 the diaphragm was pushed upward, and 1 of these also eroded the vertebrae; in 2 others the right auricle was compressed, and in 1 the innominate artery.

In 6 the lungs were consolidated by pressure.

Among the fusiform aneurisms it was found post-mortem that 3 compressed the superior vena cava; 1 produced pulmonary apoplexy; another pulmonary congestion; the third compressed the trachea and laryngeal nerve, and 2 compressed the trachea alone.

It is much to be regretted that the reporters of these cases of aneurisms have not given us further information in regard to the pressure-symptoms during life, and of the conditions produced by pressure which are found at autopsy. If we did not know that pressure-symptoms were so commonly met with in aneurisms we might be led to suppose from these statistics that they are rare complications of the lesion.

A study of the occupations of these cases of aneurism which we have just described fails to reveal that any particular one can be considered as distinctly provocative of the condition, save that the disease occurred most frequently in soldiers, in whom it is said to have occurred in 11 instances, in sailors in 9 instances, in porters in 10 instances, in laborers in 6 instances, and in coachmen in 5 instances. Almost every other occupation known provides from one to three cases.

It seems to us that this is rather an interesting fact, as we would have supposed that certain occupations would far exceed all others in the frequency with which they aid in producing this condition of the ascending portion of the arch.

THE SECOND OR TRANSVERSE PORTION OF THE ARCH. When we come to the consideration of aneurisms involving the second or transverse portion of the arch of the aorta we find once again that the most common age for the development of this lesion is between thirty-five and forty-five, for out of 88 males suffering from this lesion 37 were

between these ages, 21 between forty-five and fifty five, 14 between twenty-five and thirty-five, 10 between fifty-five and seventy, and 2 between fifteen and twenty-five.

In 66 of the cases no statement was made as to whether the patient was healthy or not; 8 of them were stated to be healthy; 7 cases were stated to be due to trauma, 5 to syphilis, 2 to alcoholism, and none were attributed to rheumatism; 16 cases occurred in females, and here again the greater number were between thirty-five and forty-five, namely 8; 4 between forty-five and fifty-five, 2 between fifty-five and seventy, 1 between twenty-five and thirty-five, and 1 between fifteen and twenty-five.

Of the causative factors producing the lesion, 1 is attributed to syphilis and 2 to alcohol; in the remainder no cause was given.

When we come to consider the cause of death other than rupture we find in 88 males that 1 died of pericarditis, 2 of suffocation, 1 from collapse, 8 from exhaustion, 1 from œdema of the larynx, and 1 from pneumonia.

Among the females 1 died of paroxysmal dyspœa, 4 from exhaustion, and 1 from pressure on the trachea.

In 37 of the males a statement is made as to the surrounding organs into which the aneurism burst; 7 of these burst into the œsophagus, 7 into the left bronchus, 7 into the trachea, 4 into the left lung, 4 into the left pleura, 4 into the pulmonary artery, and 2 into the right pleura.

Among the females 2 burst into the trachea and 2 into the pericardium.

The directions of the aneurismal growth was in 21 cases backward and to the right, and in only 2 upward and to the left; in 2 others it was directly backward; in 15 it was directed upward and to the right, and in 2 others upward and backward. The condition of the aorta in males was described as being healthy in 5 instances, and as atheromatous in 38; in 45 cases no statement as to the condition of this vessel was found.

Among the females the texture of the vessel-wall is stated to have been healthy in 1 instance, atheromatous in 6, and in 9 others no statement was given.

In regard to the condition of the heart, we find among the males a comparatively small number of cases in which a careful description of this organ is given. In 62 out of 88 instances no statement is made. It is, however, a rather noteworthy fact, that out of the remaining cases the great majority are stated to be healthy; thus 16 of the cases were said to have a healthy heart and valve; in 2 the left ventricle was dilated and the right ventricle hypertrophied; in 3 others the aortic valves were incompetent, in one of these the valves were also thickened; in still another case the aortic valves were competent but thickened; in 2

others they were said to be atheromatous, and in another to be covered with fine granules.

Among the females it is stated that in 6 instances the heart and valves were healthy.

It is interesting to note whether the symptoms produced by pressure in aneurisms of the second portion of the arch are similar to those produced by pressure by aneurisms at the beginning of the arch.

An analysis of the cases involving this portion shows that inequality of the pulse and of the pupils is mentioned in very few instances. Among the males it is stated in 2 cases that the left pulse was absent; in 13 that it was weaker than the right; in 6 a definite statement is made that the pulses were equal, and in 67 no statement in regard to this point is vouchsafed.

No statement in regard to variations of pulse and pupil is made in the 16 females.

Of the other pressure-symptoms we find among the males that dysphagia was present in 4 cases, pain in only 1, hoarseness in 1, aphonia in 1, shrill voice in 1, and œdema of the arm and forearm in 1; in still another, attacks of syncope occurred in which the carotids ceased to beat.

Among the females 4 suffered from dysphagia, 1 from paroxysmal dyspnoea, and 1 from constant dyspnoea; in other words, in only 16 cases are ante-mortem signs of pressure recorded.

At the autopsy we find that the tracheal rings were eroded in 6 cases; the left innominate vein stretched in 4 cases, in 1 of which it was obliterated; in 4 others the superior vena cava was compressed; in 1 the inferior vena cava was compressed, and the pneumogastric and recurrent laryngeal nerve were also involved by the pressure. In 2 cases both the trachea and ribs were eroded; the left carotid and innominate arteries were compressed in 3 cases; the vertebrae were eroded in 3; the œsophagus compressed in 4; the ribs and the vertebrae both eroded in 4; the right lung compressed in 2, and the ribs and sternum eroded in 2 instances. In one the left vagus and left recurrent laryngeal nerve were compressed and the left brachial cephalic vein obliterated; in another empyema is said to have arisen from pressure, and in the third the phrenic nerve was destroyed for the space of 3 inches by the pressure of the aneurism; 2 cases flattened the left bronchus, in 3 collapse of the left lung, and a number of other single ones are recorded as having compressed the trachea and left bronchus; another as causing adherent pericardium, and the third as projecting into the second intercostal space.

Among the females 4 eroded the vertebrae, 3 compressed the œsophagus, 2 eroded the ribs, 1 pressed down the right lung and was adherent to the ribs, which it slightly eroded, and another compressed the left bronchus and trachea.

It will be seen, therefore, that aneurism of this portion of the arch produces pressure-conditions which are not very characteristic, since a very large number of parts are often pressed upon.

THE THIRD OR DESCENDING PORTION OF THE ARCH. We have collected 110 instances in which the third or descending portion of the arch was affected by the aneurism. Here, again, the frequency of the malady between the ages of thirty-five and forty-five years is striking in contrast with its frequency at other ages. Thus among 93 males so affected but 2 were between fifteen and twenty-five years, 20 between twenty-five and thirty-five years, 41 between thirty-five and forty-five years, 12 between forty-five and fifty-five years, and 11 between fifty-five and seventy years. Among the females a somewhat similar frequency also exists, although the small number of cases hardly justifies the comparison, there being but 17; of these 2 suffered from aneurism between fifteen and twenty-five, 4 between twenty-five and thirty-five, 5 between thirty-five and forty-five, and 4 between forty-five and fifty-five years.

In regard to the causes ascribed, we find among the males trauma is held responsible 15 times, alcohol 13 times, syphilis but twice, syphilis and alcohol once, and rheumatism once; in 6 instances the patient was said to be healthy. Among the females trauma is given as a cause in 5 and syphilis and alcohol in 2 cases.

In 64 of the cases occurring in males a statement as to the seat of rupture is given; in 19 instances the aneurism ruptured into the œsophagus and in 17 into the left pleura; 10 ruptured into the right pleura, 8 into the left bronchus, 3 are said to have burst into the lungs, 2 into the pulmonary artery, and 2 into the left lung. Among the females rupture took place six times into the œsophagus, twice into the left bronchus, and twice into the left pleura; once the aneurism ruptured into the venous cavity superior. The frequency with which rupture took place into the œsophagus in these cases is of interest, and the rupture into the left portion of the chest is to be expected from the seat of the growth.

Among the causes of death which are given in connection with these cases of aneurism involving the third portion of the thoracic arch we find that very little information is available, for in only 17 of the cases are any facts stated of this character; out of these 17, however, 9 died from pressure upon the trachea, 5 from exhaustion, 2 from pressure on the bronchus, 1 from pulmonary apoplexy, and the direction in which the aneurism extended is stated in but 24 cases; in 11 of these it extended backward, in 6 to the left, in 2 to the right, upward in 2, in 2 forward, and in 1 to the right and backward.

In regard to the condition of the heart and its valves, we find that

statements concerning this organ are made in connection with only 20 cases. Among the males in 15 of these the heart was normal, and in 5 it was dilated, hypertrophied, and the valves diseased. In the 6 females about whom information is given as to the condition of the heart, this organ is said to be healthy in 4, to be suffering from mitral stenosis in 1, and to be hypertrophied and dilated in 1. In only 23 instances was the condition of the aorta noted among males; in 20 of these it was atheromatous, and in the remaining 3 it was stated to be healthy. In females, of 17 cases in 9 it was found atheromatous.

In regard to pressure-symptoms which were produced by this growth, we find that again much information cannot be obtained from statistics, owing to the imperfect reports. In only 2 was the right pupil contracted, in 1 the left pupil was dilated, in 2 the left pulse was absent, and in 2 it was weaker.

From the anatomical position of this lesion we would not expect that there would be much variation in the character of the pulse except indirectly by pressure—that is to say, the aneurismal sac would not be in such a position as to interfere with the flow of blood into the vessels which are given off from the upper portion of the arch.

In regard to other pressure-symptoms, pain, cough, and dyspnoea were most commonly present, although they are stated to have been so in only 10 instances; in 3 there was a stridulous voice, in 8 dysphagia, and in 2 complete aphonia. So far as pressure-changes found post-mortem are concerned, there was no great constancy. In 8 the ribs and vertebrae were eroded, in 2 the trachea was flattened by pressure; in 2 others the aneurismal sac had eroded the vertebrae and compressed the recurrent laryngeal nerve; but it is a noteworthy fact that these pressure-symptoms found post-mortem were not as frequent as in other lesions of the heart, probably because of its situation.

There still remain 169 cases of aneurism of the arch of the aorta which we have been unable to classify into the three divisions named, because the reporter did not state the exact portion of the arch which was involved; of these 169 cases 124 occurred in males, and once again it is a noteworthy fact that the age, from thirty-five to forty-five, was one which was most commonly affected; thus between fifteen and twenty-five years of age there were but 2 cases; between twenty-five and thirty-five, 16 cases; between thirty-five and forty-five, 46 cases; between forty-five and fifty-five, 40 cases, and between fifty-five and seventy, 14 cases; in 6 cases the age was unknown.

Among the females this proportion was not so closely adhered to; there were 45 such cases; 2 occurred between fifteen and twenty-five, 11 between twenty-five and thirty-five, 6 between thirty-five and forty-

five, 17 between forty-five and fifty-five, and 9 between fifty-five and seventy years.

In regard to the cause, we find that alcohol and trauma seem still to be the most common cause in the minds of the physicians who reported the cases. Thus although in 93 out of the 124 no cause was given, in the remaining cases we find that 11 were due to alcohol, 11 to trauma, 1 to syphilis, and 2 to syphilis and alcohol, while 6 others are stated to have been healthy, and among the females 5 were said to be due to trauma, 2 to syphilis, and 1 to rheumatism.

In 61 cases among the males a record is made of the part involved by the rupture; in 12 instances it ruptured into the œsophagus, in 12 into the trachea, in 6 into the lungs, in 6 into the pericardium, in 5 into the right pleura, in 5 into the left bronchus, in 4 into the pulmonary artery, in 1 instance its rupture taking place two weeks before death, in 2 it ruptured externally, in 1 into the superior vena cava, in 2 into the right lung, in 1 into the subdiaphragmatic tissues, and in 1 into the anterior mediastinum.

Among the females we have information in regard to only 17 cases; 4 of these ruptured into the pericardium, 4 externally, 2 into the pleura, 2 into the lungs, 2 into the left bronchus, 1 into the anterior mediastinum, and in 2 it is stated that the area of rupture was unknown.

Among the causes of death other than rupture we find pressure on the trachea caused death in 17 instances, exhaustion in 4, serous effusion into the pleura in 2, and pressure on the superior vena cava in 1. The causes of death among the females are stated in but few instances, chiefly dependent upon exhaustion, "suffocation," and pressure upon the trachea.

In concluding this paper, we may be permitted to call attention to several facts which we think are noteworthy: The first is the far greater frequency of this lesion in males than in females; second, the far greater frequency in involvement of the ascending portion of the arch than of the other portions; third, the fact that aneurism of the transverse and descending portion of the arch seems to be about equally frequent; fourth, that in a large proportion of cases death did not ensue from rupture but from pressure by the growth; fifth, that syphilis does not seem to play as large a part as an etiological factor as is usually supposed, although this evidence is negative rather than positive, since it is possible that many of the cases which were assigned to trauma as the cause are really dependent upon syphilis, in that this disease had primarily weakened the aortic wall so that injury readily brought about aneurism.

REPORT OF A CASE OF HODGKIN'S DISEASE, SHOWING
LONG PERIODS OF FEVER.BY CUNNINGHAM WILSON, M.D.,
BIRMINGHAM, ALA.

PATHOLOGICAL REPORT,

BY SIMON FLEXNER, M.D.,

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FEVER in Hodgkin's disease is one of the most common symptoms, but it is, however, rare for patients to present the long periods of fever shown in the report below. The temperature in this case ran for some time a course which resembled closely the chart of a typhoid patient, and only at times was there an intermittent or malarial-like temperature.

The charts presented by most writers show fever running from ten to fourteen days.

J. E., aged thirty-eight years, single, white, born in Alabama. *Family History.* Father living and well; mother living, but health poor; one sister living; one brother died of typhoid fever. *Personal History.* Had always had good health until his present illness. In 1892 he noticed enlargement of the cervical glands on the left side; this was soon followed by fever and loss of strength and flesh. The glands enlarged rapidly, causing him great inconvenience in swallowing and breathing. He spent the winter of 1893-94 in Florida, and was very much benefited. His fever soon left him, and the glands were reduced in size. Returning to his home his old symptoms soon reappeared, and he again lost strength. The next winter (1894-95) he spent in Florida, but gained less benefit than before. He recovered considerable strength, and the glands in his neck again subsided. During the following summer he had occasional periods of fever, but with less enlargement of the glands. He said he passed blood with his urine occasionally. His appetite and digestion were good at all times; and had no palpitation or shortness of breath; during the periods of fever he had intense headache.

On March 31, 1896, I saw him for the first time. He had been having fever for about two weeks, the temperature ranging from 99° to 103° F.; he was greatly emaciated; and severe headache, and his mind was a little confused; he had a good color and appetite, and his digestion was good. There were three or four glands on the left side of the neck as large as almonds, and two on the right side; there was no enlargement of the axillary or inguinal glands. Examination of the heart and lungs was negative. He exhibited slight tenderness over the liver; the spleen was palpable, extending two inches below the costal margin. He had no leucocytosis. The urine was normal; the temperature 103° F.; the pulse 74.

His fever continued through April, never touching the normal point until May 1, 1896. He was made much more comfortable by cold