

Report on some cases of dissecting aneurism / by Dr. Peacock.

Contributors

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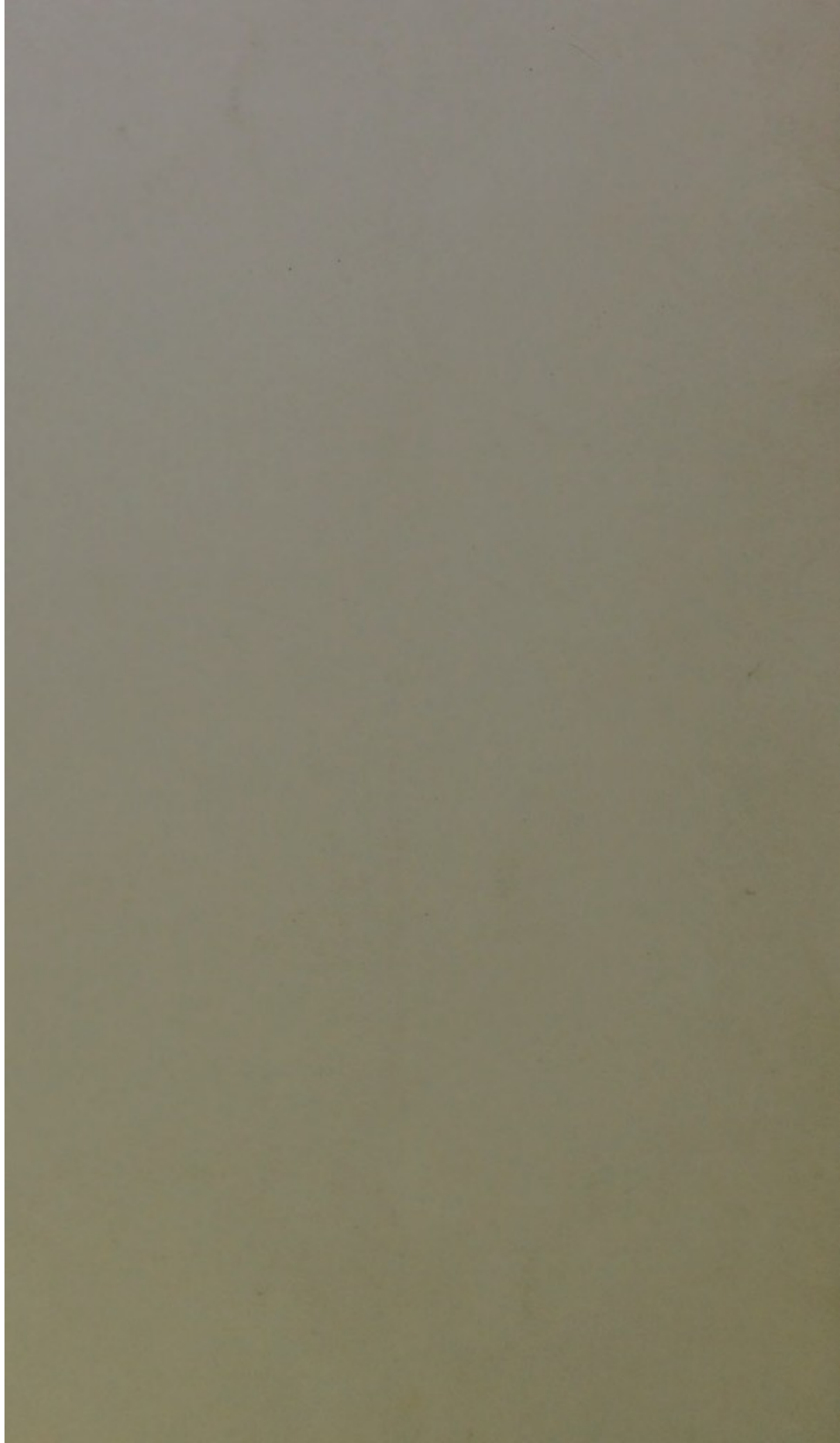
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Report on cases of Dissecting Aneurism.

BY DR. PEACOCK.

The specimens presented by Dr. Bristowe and Mr. Gaskoin are examples of what has been described as "Dissecting Aneurisms" in the early stage.

It has generally been supposed that Lænnec was the first writer who applied the term "*dissecting*" to this form of aneurism, but it has been recently shown by M. Broca that M. Maunoir employed the same designation, and clearly described the formation of aneurisms of this kind in his work published in 1802. A characteristic case is also related from the notes of Mr. John Burns, by Mr. Allan Burns, in his work on "Diseases of the Heart and Aneurism," which appeared in 1809. Till recently, however, but few cases of dissecting aneurism have been placed on record, and it is only of late years that the nature of the affection has been clearly understood.

In 1837, Rokitansky* published several cases, and in 1843† without any knowledge of the previous memoir of Rokitansky, I collected nineteen cases in a paper on the subject. Some few others might have been added from more extended research in the periodicals of this country. In 1847‡ Dr. Crisp referred to twenty-one cases, and in 1849§ I brought together, in a second memoir, references to thirty-eight.

Since that period the number of published cases has been greatly extended, and I have recently been able without difficulty to collect eighty instances in which the affection existed in well-marked forms. Of this number, eight, including the two reported upon, are contained in our own "Transactions," three are published in the Transactions of the Medico-Chirurgical Society, five in the Dublin Journal, six in the Bulletin of the Société Anatomique of Paris, two in the Memoires of the Société de Biologie, and not less than twenty-one—of which, however, some appeared in the previous memoir—have been published by Rokitansky in his recent work on the more important diseases of arteries.¶ That work also contains several other observations bearing upon the pathology of the Dissecting Aneurisms. The remaining cases are scattered through the periodicals of this country, the United States,

* Oesterr. Med. Jahrb., quoted in Schmidt's Jahrbücher, 1839, p. 30.

† Ed. Med. and Surg. Journal, vol. ix. p. 276.

‡ Structure, Diseases, &c., of the Blood-vessels.

§ London and Edinburgh Monthly Journal of Medical Science, vol. ix. (N. S. vol. iii.) p. 1052.

¶ Wien, 1852.

France, Germany, and Italy. An able summary of the existing information on the subject will also be found in a report by M. Leudet,* in the Bulletin of the Société Anatomique of Paris.

This form of aneurism may be described as presenting three stages :

1. *The incipient stage*, in which there is a rupture, or destruction in some other way, of a part or the whole of the internal coats of the vessel, and an extravasation of blood to a limited extent between the external and middle coat, or, more probably, in the laminae of the latter. Of this stage I am only able to refer to the examples quoted in my former papers.†

2. In the next, or *early stage of the fully-formed dissecting aneurism*, in addition to the internal rupture or perforation, the blood is found to be extensively extravasated in the coats of the vessel, separating the middle from the external tunic, or the laminae of the middle coat, to a variable extent above the seat of rupture and downwards in the course of the vessel, and not unfrequently along the primary branches. Usually, also, the external boundary of the sac is found to have been torn through, so that the blood has escaped into some of the adjacent cavities.

Of this form of the disease by far the largest number of recorded cases afford examples—seventy-three out of the eighty instances of the fully-formed affection being of this description.

3. In the *advanced stage of dissecting aneurism*, there is found an opening through the internal coats of the vessel, leading into a sac situated within the arterial tunics, and extending to a greater or less distance along the course of the vessel. This sac is lined by a distinct membrane very similar to the natural lining membrane of the arteries. Not unfrequently, also, communications exist between the newly-formed canal and the original vessel, and the former re-opens into the latter or into one or more of its primary branches at the distal extremity. In some cases this condition bears a close resemblance to an abnormal formation of the vessel, and it is highly probable that in one instance a dissecting aneurism of the aorta has been mistaken for a malformation of that vessel.

Of this form of the disease but very few cases are on record, indeed, they amount to only seven or eight; one of the most remarkable being that related by Dr. Swaine in our own "Transactions."‡

* 28^{me} année, 1853, p. 276.

† Morgagni, De Sed. et Causis Morb. xxvii. 28. Nicholl, Phil. Trans. 1762. Hodgson, Diseases of Arteries and Veins, p. 63.

‡ Shekelton, two cases. Dub. Hosp. Rep. vol. iii. p. 231. Pennock, Am. Journ. of Med. Science, vol. xxiii. 1839, p. 13. Henderson, Lond. and Edin. Monthly Journ. of

Influence of sex and age on the production of dissecting aneurisms.—

It is well known that the common forms of aneurism are of more frequent occurrence in men than in women, and if the aneurisms of the superficial arteries, to which, for obvious reasons, men are much the most subject, be excluded from the comparison, men are still found to be more frequently affected than women. From the small number of cases on record at the time of the publication of my first paper, I inferred that dissecting aneurisms followed a very opposite rule, being more frequent in women than in men. The larger series now brought together does not altogether confirm that inference: of seventy-two cases in which the sex is named, thirty-nine having occurred in males, and thirty-three in females. This proportion is, however, still greater in women than obtains with the ordinary forms of aneurism.

The dissecting aneurism was also supposed to differ from the common aneurismal affections, in being especially common in persons of advanced age. The present series of cases shows that the disease may occur in persons at all periods after early life, but that, allowance being made from the relatively small number of persons living at the more advanced ages, it is more common in old people.

Of sixty-eight persons the ages are as follows:—

17 years of age	1
21 to 24 inclusive	5
From 30 to 40	6
„ 40 to 50	11
„ 50 to 60	18
„ 60 to 70	10
„ 70 to 80	10
84	1
88	1
95	1
}	
	3

Of four other cases in which the precise age of the subject is not stated, one is reported to have been young, one middle-aged, one elderly, and one aged.

Situation of the perforation of the internal coats and extent of separation of the tunics.—Hitherto the dissecting aneurism has been found only in the aorta or its large branches. From the thinness of the coats

Med. Science, vol. iii. 1843, p. 613. Bouillaud, Arch. Gén. de Med., 4^{me} serie, T. xv. 1847, p. 248. Goupil, Bullet. de la Soc. Anat. 28^{me} année, 1853, p. 276. Cadet-Gassicourt, *Ibid.*, 30^{me} année, 1855, p. 352. Swaine, Path. Trans. vol. vii. 1855-56, p. 106.

of the pulmonary arteries, it may be doubted whether they admit of partial laceration and of separation so as to constitute a dissecting aneurism. Of seventy-three, out of the eighty cases collected, including only those in which the disease was fully formed or of the second and third stages, the internal rupture was situated near the origin of the aorta or in the ascending portion of that vessel, in . . . 55 cases.

Of these, the separation extended—

Over a limited portion of the coats, in 18

Over a large portion of the ascending aorta, in 17

It involved the whole of the ascending aorta, and reached to the origins of the left carotid and subclavian arteries, in 7

It extended from the origin of the aorta over a larger or smaller portion of the descending thoracic aorta, in 6

It reached to some part of the abdominal aorta, in 3

„ to the bifurcation of the aorta, in 2

It reached to the iliac arteries, in 2

The internal rupture was situated at or near the origin of the arteria innominata, in 7 cases.

And of these the separation extended—

Upwards to the origin of the aorta, and downwards to beyond the origin of the left subclavian artery, in 1

It occupied a limited space near the seat of the internal laceration, in 3

It passed along the course of vessel below the tear to the extent of four inches, in 1

It reached to the bifurcation of the aorta, in 1

It extended as far as the popliteals, in 1

The internal rupture was situated at the commencement of the descending thoracic aorta and beyond the origin of the left subclavian artery, in 8 cases.

In these, the separation extended—

Upwards to the origin of the aorta, and downwards throughout the thoracic portion of the aorta, in 1

Upwards to the origin of the aorta, and downwards below the rent, in 1

Upwards to the origin of the aorta, in 1

Upwards to the arch, and downwards to the iliacs, in 1

Throughout the descending thoracic aorta, in 1

To the renal arteries, in 1

To the iliacs, in	2
The internal ruptures were situated in the abdominal aorta, in	3 cases.
Of these the sac occupied the lower portion of the abdominal aorta, in	1
The bifurcation of the aorta and the iliacs, in	2
In seven cases there were two or more ruptures. The rupture which probably occurred first was situated near the origin of the left subclavian artery, and the second below the arteria innominata, in	1
The first rupture was below the arteria innominata, and the second near the aortic valves, in	1
The two ruptures were both near the aortic valves, in	2
The first rupture was near the aortic valves, and the second near the arteria innominata, in	2
There was a healed and a recent rupture near the aortic valves, in	1
There were three ruptures near the aortic valves, in	1

The separation of the coats was not, however, always limited to the aorta but frequently extended along its larger branches, the arteria innominata, the subclavian and carotid arteries, the cœliac axis, &c. In the descending aorta the intercostal arteries are often described as having been torn across, so that they appeared to arise from the newly-formed sac.

The *extent, direction, and depth of the laceration of the internal coats* varies in different cases. The rupture usually follows, when near the aortic valves, a transverse direction; sometimes, on the contrary, it is oblique or vertical; but, when at the descending portion of the arch, it is generally vertical. Ordinarily, about one-half or two-thirds of the circumference of the vessel is torn; but sometimes the laceration is of very small extent, and in other cases it involves nearly the whole circumference.

In the reports of the cases of dissecting aneurism which were first published, the internal coats were generally described as torn entirely through, and the separation which constituted the sac of the aneurism is usually stated to have been between the middle and external coat. Drs. Pennock and Goddard* found in the cases which they examined that the middle tunics were only partially rent, and that the sac was formed by the tearing apart of the laminæ of the middle coat; and the cases† which fell under my notice in the recent state, before the publication of my first paper, corresponded, in these respects, with those of the Ameri-

* American Journal of Medical Sciences, vol. xxiii. 1839, p. 20.

† Case 1st, Dr. Patterson's, and Case 8th, Janet Jopp, in my first paper; and Dr. Henderson's case, Monthly Journal, 1843.

can authors. In consequence, also, of a suggestion in their paper, I was led to try the effects of injecting water into the trunk of the aorta after the laceration of the internal coats.* It was thus ascertained, that the middle coat, even of a healthy artery, readily admitted of being separated along the course of the vessel by water forced between the laminae. I also found that, provided a layer of the middle tunic remained attached to the external coat, the water injected was retained in the newly-formed canal; but if the middle coat was entirely torn through and the fluid was extravasated between the middle and external coat, it transuded through the latter and no absolute separation of the tunics resulted. I am well aware that caution must be exercised in applying conclusions drawn from the injection of water into healthy vessels, to the explanation of the effects of the extravasation of blood during life. The inference seems, however, a fair one, that for the production of a dissecting aneurism the internal coat must not be entirely torn through, and that a layer of the middle coat must still remain attached to the external coat to form the outer wall of the sac.

These inferences have been, to a considerable extent, confirmed by the examination of various specimens of dissecting aneurism since that time; some too, in which the sac had been previously described as situated between the external and middle coats. Rokitansky, in his earlier memoir, had adopted the received opinion as to the seat of the sac; but in his recent work he states that he has since re-examined some of his specimens and has found them to confirm the view here expressed, though he does not regard the latter as in all cases correct. Further experience, however, only confirms the doubt, that it is possible for the outer coat of the artery alone to retain the blood forced out of the natural canal of the vessel sufficiently long to produce a dissecting aneurism.

The *extent to which the coats are ordinarily separated* varies considerably. Generally the sac occupies one-half or two-thirds of the circumference of the artery; but occasionally, and especially when the separation is continued from the trunk to its branches, the whole circumference of the artery is separated, so that a canal is formed entirely surrounding the original vessel.

Condition of the arterial tunics and of the heart.—The state of the coats of the aorta is reported in sixty, out of the eighty, cases collected.

They are stated to have been healthy, in	 2
Healthy, except with some milk spots, in	 1
Thickened, in	 2

* Lond. and Edin. Monthly Journal of Medical Science, 1843.

Atheromatous, in	8
Dilated, in	8
Dilated and variously diseased; thickened or thinned; softened or indurated; atheromatous or ossified, in	34
The calibre of the vessel was contracted by the pressure of an aneurismal tumour, in	1
The vessel was greatly contracted or entirely obliterated in the seat of insertion of the ductus arteriosus, in	4
The state of the heart is reported in 48 cases:—	
The organ was loaded with fat, in	3
It was large and loaded with fat, in	6
It was the seat of fatty degeneration, and displayed disease of the valves and of the coronary arteries, in	1
It was more or less hypertrophied and dilated, in	16
It was more or less hypertrophied and dilated, and the valves were diseased, in	12
The valvular disease being mitral, in	1 case
Aortic, in	3 „
Aortic and mitral, in	8 „
The cavities were dilated and the walls thinned, in	4 cases.
There was concentric hypertrophy, in	2
The left side only was hypertrophied, in	3
The heart was healthy, but the valves slightly atheroma- tous, in	1

Mode of formation, &c.—For the production of the dissecting form of aneurism two circumstances seem generally required:—

1. That the internal coats should be unduly lacerable;
2. That the heart should have acquired increased power or should act with undue violence.

Of these two causes, the first seems the most important:—

1. From the reports of several of the published cases, it appears that the coats of the affected vessel had undergone an acute change, so that they admitted of being torn and separated with the greatest ease. In other instances the ready lacerability of the coats is attested by there being two or more ruptures, which had occurred within a short period of each other or at more distant intervals. In yet other cases the change in the arterial tunics was a chronic one, the coats being loosely attached and rigid, so as to give way under slight distention. It is probably to this cause that the greater frequency of the affection in persons of advanced age and in females is to be ascribed. It is

well known that the arterial tissues become more rigid and unyielding with the advance of life, and that the coats are more loosely attached and thinner in females than in males.

It will also be observed, that the internal ruptures most frequently occur in those situations upon which the blood impinges with the greatest force during the cardiac systole. Thus they are the most common near the aortic valves and in the ascending portion of the aorta, and especially on the anterior wall; next in frequency they occur at the commencement of the arch, or near the origin of the arteria innominata and in the transverse portion; then at the termination of the arch and commencement of the descending thoracic aorta; and lastly, in the abdominal aorta.

2nd. It would also appear that the immediate occurrence of the internal ruptures is generally connected with the operation of some cause which would give rise to over-action of the heart.

Thus, in five cases, there was serious obstruction to the transmission of the blood through the distal portion of the aorta,* and the frequency of fatty degeneration of the heart and of atheroma in the aorta would render it probable that the smaller arteries were commonly the seat of disease. In another series of cases the heart was found hypertrophied and dilated, and the valves diseased; and yet in other instances the heart displayed general hypertrophy and dilatation, though without valvular disease.

In several of the cases also, the patients were first seized with the symptoms indicating the occurrence of the internal ruptures after active muscular exertion, or when they had been subjected to some mental excitement which would lead to undue action of the heart. In some cases, it is true, the causes thus operating were very slight; but they may yet have been sufficient, in persons in whom the arterial tissues were readily lacerable and the heart habitually acting violently, to occasion rupture of the coats.

Rokitansky† adopts a view different from that here maintained; he supposes that, in some cases at least, the disease is to be traced to a morbid condition of the external coat which causes its separation from the other tunics. The internal coats being thus deprived of support give way, and the blood becomes extravasated at the separated portion

* Obstruction in aorta: Jordan, North of England Med. and Surg. Journ., August, 1830 to May, 1831, vol. i. p. 101. Otto, Neue seltene Beobachtungen, Berlin, 1824, p. 66. Wise, Trans. of Med. and Phys. Soc. of Calcutta, vol. viii. pt. 2, 1842, p. 384. Barker, Med.-Chir. Trans., New Series, vol. xxv. 1860, p. 131. Aneurism: Boyd, Lancet, 1840-41, vol. i. p. 611.

† Manual of Path. Anat., Sydenham Society's Trans. vol. iv. p. 314.

of the vessel. I have not met with any case in which the disease has apparently so originated; and if the first evil be in the external coat, it is difficult to conceive that it should possess sufficient power to resist the pressure of the blood, and yet without such pressure being exerted for some time, a dissecting aneurism could not be formed.

Duration of the disease, and cause of death.—In some cases of dissecting aneurism death is very rapid or instantaneous; but most generally the patient rallies more or less completely from the first symptoms, and dies suddenly or rapidly, after a longer or shorter interval. The symptoms first experienced are usually syncope and tearing pain behind the breastbone and down the course of the back; these symptoms may continue for a longer or shorter time or may indeed temporarily subside, and then a sudden accession of syncope ensues and rapidly terminates life. The former symptoms indicate the primary rupture and the separation of the coats; the sudden death, the period at which the external wall of the sac gives way and the blood is extravasated into some adjacent cavity. In some cases a remarkable series of symptoms due to the arrest of vascular supply to the brain or kidneys has been observed.* In yet other cases the patient recovers from the immediate symptoms and survives for a considerable period, sinking at last under the obstruction to the circulation and secondary affections resulting from the aortic disease.

The duration of life, or the period which elapses between the first and second set of symptoms, and the mode in which death ensues, is mainly influenced by the seat of the internal lacerations.

In fifty-seven cases in which the ruptures were situated near the aortic valves, the termination was by rupture of the external walls of the sac and the escape of the blood into the cavity of the pericardium, in 40 cases.

Of these the patient was found dead, in	5
" died suddenly, in	15
" died rapidly, in	4
" survived one hour, in	1
" " one hour and a-half, in	1
" " five hours, in	1
" " seven hours, in	1
" " eight hours, in	1
" " some hours, in	1
" " sixteen hours, in	1
" " eighteen hours, in	1

* Todd, Med.-Chir. Trans. vol. xxvii. 1844, p. 301. Bennett, *Ibid.*, vol. xxxii. 1849, p. 157. Swaine, Path. Trans. vol. vii. 1855-56, p. 106.

Of these the patient survived less than one day, in	1
" " two days, in .	2
" " four days, in .	1
" " five days, in .	1
" " eleven days, in .	1
" " seventeen days .	1
The disease was probably of long duration, in .	1
The sac ruptured into the pericardium, and there were old pericarditic adhesions, in	3 cases.
Of these died suddenly	1
" " died rapidly	1
The sac ruptured into the cellular tissue of the mediastinum .	1 case.
Into the mediastinum and pericardium	3 "
Of which was found dead	1
The blood escaped into the cavity of the pericardium without distinct laceration, in	2 cases.
Survived two days	1
" " three days	1
The sac ruptured into the cavity of the pericardium, and there was recent pericarditis, in	2 cases.
The death being sudden, in	1
The symptoms of some months' duration, in	1
The sac ruptured into the cavity of the chest, which not named, in	1
Sudden death while walking.	
Death resulted from rupture of the right auricle, in	1
Survived four days.	
Death resulted from symptoms of cardiac obstruction, in	4
The duration of the disease being uncertain, in	1
One year	1
Eight years	1
Eleven years	1
The primary ruptures were at or near the origin of the arteria innominata, in	8 cases.
Death ensued from rupture of the whole of the tissues of the arteria innominata, in	1
It occurred suddenly, and after walking.	
From rupture of all the coats of the ascending aorta, in	1
The patient survived eighteen hours.	
From the rupture of the sac into the cavity of the pericardium, in	5

Of these, died suddenly	3
„ died rapidly	1
„ survived three days	1
Death resulted from obstruction to the circulation, in	1
The patient survived nine months.	
The perforations were situated beyond the origin of the left subclavian artery or in the descending thoracic aorta, in	7 cases.
Death ensued from escape of the blood into the texture of the right lung, the cellular tissue of the mediastinum, and into the cavity of the pericardium, but without distinct rupture, in	1
The patient died suddenly when walking.	
The sac ruptured into the mediastinum and left pleural cavity, in	1
The patient died suddenly.	
The sac opened into the left pleural cavity, in	2 cases.
The patient died suddenly, in	
„ „ survived seven days, in	1
Death resulted from obstruction to the circulation after three months, in	1
The patient died probably from obstruction to the circulation, in	1
From acute cerebral and renal disease, in	1
In two cases, in which the disease was seated in the abdominal aorta, the patient died of tuberculous disease, in	1
and with febrile symptoms not connected with the arterial disease, in	1

1. It thus appears that when the internal ruptures are seated near the heart, or in the ascending aorta, or at the commencement or transverse portion of the arch, the probability is that the patient will die suddenly or only survive for a few days. The fatal result is usually in such cases determined by the escape of blood into the cavity of the pericardium or more rarely into the cellular tissue and left pleural cavity, or by the rupture of the whole of the coats of the vessel in some other part or of one of the cavities of the heart. The patient may, however, rally from the first effects of the shock and survive for some months or years, and die ultimately from the cardiac disease and symptoms of obstruction to the circulation occasioned by the formation of the aneurism, or from secondary disease of other organs.

2. When the internal ruptures are seated at the termination of the arch or in the descending portion of the thoracic aorta, the patient may

also die suddenly or may only survive for a few hours or days, the fatal event being determined by the escape of the blood into the left pleural sac, or more rarely into the cavity of the pericardium or cellular tissue of the mediastinum. The patient is also more likely to survive than in the former case, and only to sink ultimately from secondary disease of the heart and other organs.

3. When the disease is situated in the abdominal aorta, the immediate effects of the rupture are less obvious, and the patient will probably die from slowly-induced disease of the heart and aorta or from other affections.

If the disease be situated near the origin of the aorta, when the sac ruptures the external laceration generally follows a longitudinal direction, and the pericardium may give way at the same time or may temporarily resist the pressure, so that blood may be effused beneath it and into the cellular tissue of the adjacent parts. The pericardium may be extensively torn, or the blood may escape by a small opening, or may transude without any distinct fissure.

The specimens, exhibited to the Society by Dr. Bristowe and Mr. Gaskoin, are examples of dissecting aneurisms in the second stage, and correspond in their general features with such affections in the respective situations. In Mr. Gaskoin's case the primary laceration is situated quite at the origin of the aorta; it appears at first to have only passed through a portion of the middle coat, and the laminae of that tunic are consequently separated to a limited extent. Subsequently, however, the rupture seems to have extended, the blood penetrated beneath the external coat and into the adjacent cellular tissue, and finally made its way through the covering of pericardium, so as to escape into the pericardiac cavity.

In Dr. Bristowe's case the primary ruptures are situated in the ascending portion of the aorta, and appear to have penetrated through only a part of the middle coat; an extensive separation of the laminae of the middle coat ensued, and the sac ultimately ruptured into the cavity of the pericardium and the cellular tissue.

The coats of the vessel, in Mr. Gaskoin's case, were atheromatous; in Dr. Bristowe's, dilated and thinned. The state of the heart is not named in the former case; in the latter the organ was rather large.

Mr. Gaskoin's patient was a female, *æt.* 65, and had met with a slight accident three days before the occurrence of the fatal attack. Dr. Bristowe's patient was a man 27 years of age, and had felt faint after carrying a ladder. He died suddenly on the fifth day after the commencement of the symptoms.

TABLE OF CASES OF DISSECTING ANEURISM.

Name of Author, Date, and Reference.	Sex.	Age.	Situation of Rupture.	Situation of Sac.	Extent of separation.	Condition of Heart and Aorta.	Cause of Death.	Duration of Illness.	Previous History.
1. BURNS, Diseases of Heart, &c. Edin., 1809, p. 231. [Dr. Peacock's paper on Dissecting Aneurism, Ed. Med. & Surg. Journ., vol. ix. 1843, p. 276. Case 11.]	M	56	An irregular slit, about half-an-inch in length, in the proper coats	Between the external and middle coats	From the origin of the aorta to the arteria innominata	Heart flabby and loaded with fat; great dilation of the right side; aorta dilated, and coats thickened and osseous	Rupture of the right auricle	Died in four days from accession of severe symptoms	Had previously laboured under symptoms of cardiac disease; suddenly taken with constriction of the chest, and became collapsed
2. SHEKELTON, Dublin Hospital Reports, vol. iii. 1822, p. 231. Paper, Case 16.	—	—	Three inches above the bifurcation of the aorta	Sac formed an oblong tumour in the course of the aorta, and was lined by a distinct membrane	The sac opened into the right common iliac artery, 3 inches from its origin, and into the left, 1½ inches from origin	—	—	—	No history
3. LAENNEC, Traité de l'Auscultation Médiate, 2 ^{me} ed. 1826, T. 2, p. 692. Paper, Case 15.	M	67	Rupture of internal coats, two inches from the turn of descending aorta	Sac found between external and middle coat, and involved two-thirds of circumference of vessel	The separation extended above to the arch and below to the iliacs, and passed along the coeliac artery, where it involved the whole circumference of the vessel	Arch of aorta dilated, and coats displaying ossaceous plates; concentric hypertrophy of left ventricle	Death from acute cerebral, combined with renal, disease	—	—

Name of Author, Date, and Reference.	Sex.	Age.	Situation of Rupture.	Situation of Sac.	Extent of separation.	Condition of Heart and Aorta.	Cause of Death.	Duration of illness.	Previous History.
4. Ibid. Paper, Case 17.	F	Elderly	An aperture at the bifurcation of aorta	Sac lined by distinct membrane	Sac followed the course of left common iliac artery, and opened into it by two apertures	—	Death caused by tuberculous disease of lungs	—	—
5. OTTO, Neue seltene Beobachtungen, Berlin, 1824, p. 66.	F	17	Rupture of internal coats immediately above aortic valves, one inch in length	Separation of the outer coat and extravasation of blood beneath it	Separation over a very limited space	Enlargement of ascending aorta, only two valves to aortic orifice; heart natural except some enlargement of left ventricle. Entire obliteration, distal to left subclavian artery	Blood in the cavity of the pericardium, from rupture of external coat and pericardium	8 hours	Suddenly taken after exposure to cold, with pain at the chest, followed by collapse
6. MOREAU, Arch. Gén. de Méd. 7 ^{me} année T. xix., 1829, p. 457.	F	55	Tear in coats of vessel situated immediately above aortic valve, and extending for a distance of 3 lines; pro-per tunics softened	Blood infiltrated under cellular coats	For a considerable extent along the aorta	—	Rupture of pericardium and external coat, and escape of blood into sac	—	Sudden death
7. GUTHRIE, Diseases and injuries of arteries, &c. London, 1830, p. 43.	—	—	Rupture of two internal coats beneath the arteria innominata; entire rupture of coats of arteria innominata	Sac reported to be situated between the external and middle coats, and to involve half the circumference of the vessel	The sac extended from the seat of the rupture to the origin of the aorta, and below to beyond the left subclavian artery	Ascending aorta greatly dilated and aneurismatic	Death from rupture of the entire coats of the arteria innominata	—	Was asthmatic, and died suddenly, after making some exertion

Name of Author, Date, and Reference.	Sex.	Age.	Situation of Rupture.	Situation of Sac.	Extent of separation.	Condition of Heart and Aorta.	Cause of Death.	Duration of Illness.	Previous History.
8. GUTHRIE, Ibid, Paper, Case 14.	—	—	Longitudinal rupture in coats of aorta	Sac situated between middle and internal coats	Sac extending over a space of five inches in length	—	—	—	No history
9. ELLIOTSON, Lumleyan Lect., 1830, page 34. Paper, Case 6.	F	—	A transverse slit through the internal coats near the origin of the aorta	Sac formed by separation of external from middle coat	Sac of small size	—	Longitudinal rupture allowing of escape of blood into cavity of pericardium	The rupture of the internal coats was probably of old date	Admitted into Hospital with rheumatic affection and pain of side; taken suddenly with pain in the region of the heart, and immediate death
10. JORDAN, North of England Medical and Surgical Journal, Aug., 1830, to May, 1831, vol. i. p. 101.	M	21	Rupture near origin of aorta	The sac situated below the external and middle coats	The separation involved the whole pericardial portion of the aorta	Ascending aorta dilated. Complete obliteration of aorta, distal to the origin of the left subclavian artery	Pericardium distended with blood, from rupture	—	Of dissipated habits; subject to fits; found dead in street
11. ELLIOTSON, Clinical Lectures at St. Thomas's Hospital. Lancet, 1833, vol. i., p. 129.	F	—	Transverse rupture of internal and middle coats, near the origin of the aorta.	Separation of external coat from middle.	In the ascending aorta	—	Longitudinal rupture externally	Died in 5 hours	Taken suddenly when about 7 months' pregnant, after stooping, with severe pain and collapse; quite well before

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12. DR. M'LACHLAN, Glasgow Med. Journal, vol. i. p. 1, 1833, N. S. Paper, Case 5.	M	47	A transverse rupture, two inches above the semilunar valves, involving two-thirds of the circumference of the vessel.	—	—	Aorta natural	The sac opened into the pericardium, but without a distinct rupture.	2 days	Suddenly seized, when walking, with pain in the chest, and faintings; rallied partially, and then had a return of the syncope, and died
13. STATHAM, London Med. Gaz. vol. xvi. 1835, (vol. ii., 1834 & 35) p. 142.*	F	38	Rent in inner coats of aorta just above the origin of the vessel so large as to admit the thumb	Separation of cellular and elastic coats	From the heart to near the arch of the aorta in the convexity of the vessel	Inner coats of aorta much diseased and so soft as to be rubbed off by the fingernail; some hypertrophy of the left ventricle and valves much thickened; thickening of the pericardium	Small opening by which blood had escaped into the pericardium	2 days	Of dissipated habits; seized while engaged at the wash-tub, and in advanced pregnancy, with pain at the side and prostration; died suddenly during night, 2 days after seizure
14. R. W. SMITH, Dublin Journ. of Med. Science, vol. ix. 1836, p. 426. Paper, Case 3.	M	24	Rupture commencing close to aortic valves, and running first longitudinally, and then transversely for 2 inches	Sac situated between external and middle coats	Small sac	The aorta was dilated from its origin to the giving off of the arteria innominata; coats thinned, and internal membrane ulcerated	Oval aperture, by which blood escaped from sac into the pericardium	—	A blacksmith; never strong, and subject to dyspnoea

* A case is referred to by Hassé as published by Stosch in Casper's Wochenschrift, in 1834. Path. Anat., by Swaine, Sydenham Soc., 1846, p. 96.

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15. Ibid. Paper, Case 4.	F	70	Transverse laceration of internal coats, situated half-an-inch above origin of aorta, and half-an-inch long	Between the external and middle coats	From origin of aorta to giving off of arteria innominata	—	Death from rupture of outer coat and pericardium, and escape of blood into cavity of pericardium	—	Suddenly seized with pain, and became syn-copic; rapidly died
16. NIVET, Bulletin de la Soc. Anat., 3me serie, T. 2.; 2me. année, 1836, p. 295.	F	68	Transverse tear immediately above the semilunar valves.	Separation of the middle from the external coat.	Sac occupied a square inch.	Aorta one-third larger than natural; cretaceous specks in coats, and coats thinned; valves with ossific vegetations; hypertrophy and dilatation of heart, especially of left ventricle	Blood had escaped into the pericardium, through a longitudinal rupture, one-and-a-half inch long	—	Sudden fall, and died in ten minutes
17. From Schweits' Zeitsch., B. iii. Heft 1, 1838, quoted in Arch. Gén. de Med. iii. série et nouv. série T. iii., 1838, p. 344.	F	—	Aorta torn throughout its whole circumference immediately above the valves	Outer wall of the cavity formed by the pericardium	—	Aorta natural but middle tunic much softened & atheromatous at the origin of the arteria innominata; hypertrophy of left ventricle; valves healthy	Old false membrane on surface of pericardium; tear half-an-inch long in pericardium	—	Sudden death when undergoing examination for a charge of theft

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18. GODDARD, American Journal of Med. Science, Phil. 1839, vol. xxiii. p. 20. Paper, Case 10.	—	—	A rupture three-quarters of an inch above the aortic valves, extending through half thickness of middle coat, nearly one inch in length.	Between the laminae of the middle coat	Sac occupying half the circumference of the vessel, and extending from the origin of the aorta to the point of departure of eighth intercostal artery; extending also along the arteria innominata and left carotid and subclavian arteries	Heart large and fatty	Rupture of external part of sac and of pericardium, and escape of blood into cavity	7 hours	Suddenly seized with pain and faintness
19. PENNOCK, American Journal of Med. Science, vol. xxiii., p. 13. Paper Case 18.	F	95	Fissure half-an-inch above semilunar valves, penetrating through half the thickness of middle coat.	Between laminae of the middle coat	Separation extending from the origin of the aorta to its bifurcation, and along the arteria innominata, and carotid arteries; openings between sac and vessel	Heart double its natural size; great hypertrophy and dilatation of left ventricles, and dilatation of heart; valvular disease	Died of cardiac disease	8 years	Suddenly seized while engaged in pumping, and the usual cardiac symptoms continued, and ultimately proved fatal
20. BOYD, Lancet, 1840-41, vol. i., p. 611.	F	70	Inner and middle coats ruptured, about an inch above aortic valves	Cellular tissue, dissected from the middle coat.	From the commencement of the aorta to the origin of the left subclavian artery	Aorta reduced in size from compression by aneurism. Heart of natural size, but loaded with fat	Cellular substance infiltrated with blood	48 hours	Suddenly seized with symptoms of collapse, and never rallied

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21. Ibid.	M	68	Rupture of inner and middle coats about 1 inch above valves, following a T-shape, $\frac{3}{4}$ of an inch in one di- rection and half an inch in the other.	Cellular coat separated from the middle tunic.	The separation ex- tended along the whole length of the thoracic aorta as far as the diaphragm. The blood also fol- lowed the course of the coronary arteries	Lining mem- brane of the aorta atheromatous. Heart consider- ably enlarged, but valves healthy	Pericardium filled with blood which had es- caped from two small openings; blood also infil- trated into the cellular tissue	16 hours	While in a fit of passion, was seized with pain at the chest, and rapidly be- came collapsed
22. TESSIER, Giornale della Scienza Mediche, 1842, quoted in Gaz. Med., de Paris, T. x. 1842, p. 524. Paper, Case 7.	M	60	Transverse rup- ture of internal coats, near the ori- gin of the arteria innominata.	Sac between external and middle coats.	Separation extended from the commence- ment of the arch of the aorta to the pop- liteal artery on the left side, and also passed along the ar- teria innominata and its branches to the internal carotid, and in the latter situation surrounded the whole circumference of the vessel.	—	Rupture of ex- ternal coat and escape of blood into the peri- cardium	3 days	Seized with symptoms re- garded as apo- plectic, and died collapsed
23. PEACOCK, Ed. Med. and Surg. Journal,	F	56	A transverse rup- ture two inches in length, situated one inch above the	A separation of the laminae of the middle coat.	Extending upwards on the front of the aorta for one inch above the rupture	Ascending aorta very much di- lated and coats atheromatous,	A longitudinal rupture 8 lines in length, through external wall of	—	Found dead in bed; no history of previous car- diac disease

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No. 157, vol. lx. p. 276, 1843. Case 1, Dr. PATTERSON'S			aortic valves; edges of rupture irregular and ragged		and downwards to the heart; channel not wide	and small saccu- lated expansion; great dilatation of heart and thinning of the walls of the left ventricles	sac and pericar- dium, and allow- ing of escape of blood into the cavity of the pericardium		
24. Ibid. Case 2nd, Pre- paration in Museum of the Royal College of Surgeons.	—	—	An oblique and transverse rupture about one inch in length, situated two inches above the aortic valves	—	Sac about 2 inches square	Ascending por- tion and arch of aorta consid- erably dilated, and coats thickened and atheroma- tous	A longitudinal rupture about 1 inch in length, opening into the cavity of the pericardium	—	No history
25. Ibid. Case 8. Own Case.	F	84	A transverse rup- ture $\frac{3}{4}$ of an inch behind the origin of the left subclavian artery, extending round nearly the whole artery; a second below the origin of the ar- teria innominata, running trans- versely and nearly one inch in length	The sac formed between the la- minæ of the mid- dle coat	The separation ex- tended upwards to the origin of the aorta and downwards to the commencement of the abdominal aorta; it passed also along the large branches; the inter- costal arteries were connected with the sac; the separation involved $\frac{3}{4}$ of the cir- cumference of the vessel	Aorta dilated and coats thin and atheroma- tous; heart na- tural as to size, but fatty and flaccid	The blood escaped from the sac into the pericardium, evi- dently through the cellular tissue, but no distinct rupture; blood also es- caped from cellu- lar tissue into the right lung	—	Patient died suddenly in the street, while as- cending a steep but short hill; she had had dropsy a year and a-half be- fore, but was not known to have suffered from any other dis- ease

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26. Ibid. Case 12. Preparation in Museum of Royal College of Surgeons of Edinburgh.	—	—	An opening about the size of a sixpence, about half an-inch above the aortic valves, probably the result of ulceration	—	The sac was confined to the ascending aorta, and was about two inches long, and one and a-half wide	Ascending aorta dilated and coats thickened and corrugated	The sac opened into the pericardium	—	No history
27. Ibid. Preparation in Museum of Royal College of Surgeons of Edinburgh.	—	—	A small oval aperture, probably resulting in ulceration, situated behind the origin of the left subclavian artery	—	The sac extending upwards along the course of the aorta to the heart, and probably also involved the coats of the arteria innominata; the separation extended round two-thirds of the circumference of the vessel	The coats of the aorta were thickened	Death probably resulted from the obstruction to the circulation	—	No history
28. HENDERSON, Edinburgh and London Monthly Journal of Medical Science, July, 1843, vol. iii. p. 613. Paper, Case 19.	F	60	A smooth longitudinal aperture, immediately behind the origin of the arteria innominata, one inch and 1-10th in length	Sac situated between the laminae of the middle coat and lined by a smooth yellow membrane	The sac formed by the separation of the coats extending along the course of the aorta, first in front and then on its left side, from the origin of the arteria innominata to the bifurcation of the vessel, and opened by a	The ascending aorta was dilated and its coats thinned, but not atheromatous; the cavities of the heart were dilated and the walls hypertrophied; the aortic and mitral	Death resulted from obstruction to the cardiac circulation; adhesions between the attached and reflected pericardium	9 months	The patient, previously not in good health, was seized suddenly, on rising from the ground after scouring a floor, with pain at the heart, sense of something having

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29. RYAN, Lancet, 1843- 44, vol. i. p. 688.	—	—	Oblique rupture at the origin of the aorta	Thin layers of blood extravasa- ted between the external and middle coats	small oval aperture into the left common iliac artery; the branches given off communicated, some with the sac, others with the original vessel; the sac was considerably dilated at the upper part of the abdomen; the ori- ginal trunk was com- pressed.	valves slightly thickened			given way, and became collapsed; she continued ever after to suf- fer from cardiac symptoms; for three months she had been dropsi- cal
30. ROKITANSKY, Handbuch, 1842-44, So- sydenham So- ciety's Transl. vol. iv. p. 314.	F	52	A transverse rup- ture extending nearly across the vessel shortly above the aortic valves	Separation of the external from the middle coat	The separation was entire, from the ori- gin of the aorta to the arteria innominata, and partial down the abdominal aorta to the iliacs, the sac ex-	Both aorta and pulmonary artery very much di- lated; heart somewhat large and displaying fatty deposits;	Pericardium filled with blood which had es- caped from a rupture suffi- ciently long to admit the handle of a scalpel	—	Had suffered from a pain in the stomach and dyspnoea, &c., but was left in usual health, and found dead half an hour after
							Tearing of cellular coat and rupture into the sac of the peri- cardium	—	Patient taken ill and fell in the street, and died the following morning

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This case was first published, with others, in 1837.					tending also along the large branches and opening into the left subclavian artery	ossification of coronary arteries			
31. WISE, Trans. of Med. and Phys. Soc. of Calcutta, vol. viii., part 2 (1842), p. 384.	M	Middle aged	Tearing of the external coat to the extent of an inch-and-a-half, commencing immediately above the aortic valves and extending obliquely upwards	Separation between cellular & muscular coats	At ascending portion of the aorta	Ascending aorta enlarged; entire obliteration of canal beyond the left subclavian artery; heart's walls thin	The blood escaped from the sac into the cavity of the chest	—	Sudden death while walking
32. KIRKPATRICK Dublin Journal, vol. xxiv., 1844, p. 283.	M	60	Rent in coats of aorta	Coats separated and dissected completely round	—	Aorta dilated, aortic valves atheromatous	Blood effused into the pericardium	—	Suddenly seized with pain at the chest and collapse, and died in a few hours
33. LEES, Dublin Journal, vol. xxv., 1844, p. 170.	F	60	A transverse rent in the internal and middle coats an inch in extent, and originating an inch and a-half above the valves	Separation of the external from the middle coat	The separation extended from the heart to the arch and descending portion of the thoracic aorta	Atheromatous deposits in coats of aorta and large vessels; hypertrophy of the heart, and deposit on aortic and mitral valves	Pericardium displaying old adhesions in places; blood in pericardium, which had escaped from a rupture of cellular coat at posterior part of ascending aorta	—	The patient was in perfect health up to the day of her death; she suddenly fell back and died in five minutes

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34. TODD, Med.-Chir. Trans., vol. xxvii., 1844, p. 301.	M	37	About half-an- inch above the free edge of the semi- lunar valves; a small ulcer and transverse rent	The laminae of the middle coat separated	The separation ex- tended from the ori- gin of the aorta to the arch, along the large vessels for some distance, and down the course of the ab- dominal aorta	The arch of the aorta was much dilated, and the coats somewhat atheromatous; the left ventricle displayed con- centric hyper- trophy, and the semilunar valves were somewhat diseased	Pericardium distended with blood from rup- ture of external coat	11 days	The patient was suddenly taken, when in usual health and while at dinner, with syncope, fol- lowed by pain in loins and groins, hemiplegia and suppression of urine, and died convulsed, in eleven days; sof- tening of parts of brain about right ventricle, and very exsan- guine state of that side of brain; ascribed to ob- struction of cir- culation in caro- tids
35. MACDONNELL, Dublin Jour- nal, vol. xxvi., 1845, p. 454.	M	50	A clean cut-like laceration, situated one inch above the origin of the aorta; and extending transversely for one inch and three- eighths through internal and middle coats	The sac was situated between the external and middle coats	The separation ad- vanced from the aortic origin to the arteria innominata, and along the left subclavian and caro- tid arteries	Aorta dilated, atheromatous, and bony in places; semi- lunar valves dis- playing atrophy of the curtains; left ventricle hypertrophied and dilated	The external coat had given way, and blood had escaped into the sac of the pericardium	1 hour	The patient had been out walking the day before, was taken with pain and syncope and symptoms during the night, and died in about an hour

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36. THOMPSON, London Med. Gazette, vol. xxxvii., 1846-p. 584.	M	45	Half-an-inch above the aorta valves a rent extending through part of the middle coat eight-tenths of an inch long	The blood was forced between the cellular and middle coat	The separation extended from the origin of the aorta to the descending aorta, and passed along the arteria innominata and left carotid and subclavian arteries	The aorta was large, but its coats did not present deposit near the seat of the laceration; the heart was considerably enlarged and its walls thickened, and especially the left ventricle was hypertrophied	Blood was contained in the cavity of the pericardium, but there was no distinct rent by which it had escaped	3 days	The patient was first taken with violent pain in the bowels, ascribed to indigestible food; relieved by treatment, and rallied; then became worse, and died suddenly, with head-symptoms, and syncope, in three days
37. FARR, London Med. Gazette, vol. xl., 1847, p. 1116.	M	88	Half-an-inch below the left subclavian artery, irregular rent in the form of a flap, each side seven lines long, through external and middle coat	The outer coat separated from the internal and middle over the whole circumference	The separation extended for the space of four inches along the aorta	The whole thoracic aorta was atheromatous and thickened; the heart was healthy, but the valves slightly atheromatous	The outer coat of the vessel was torn through at left subclavian artery, and blood escaped into left pleural sac	—	A sawyer, and worked at his occupation till four years before his death, and never known to have had any illness; suddenly seized with symptoms of collapse, and died in five minutes

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38. CRISP, Structure, Dis- eases, &c., of Blood-vessels, 1847, p. 169. Preparation in Museum of St. Thomas's Hospital.	M	69	Transverse but ir- regular rupture of internal and mid- dle coats; situ- ated two inches and a-half above aortic valves	Separation of external from the middle coat	Separation extend- ing from the origin of the aorta to the arch	Coats of aorta very lacerable, and atheroma- tous and bony; heart's cavities dilated and walls thin	Pericardial sac distended with blood	1½ hour	Suffered under melanosis of eye. While in Hospi- tal was suddenly seized with pain in the chest; be- came syncopic, and died in an hour and a-half
39. JOHNSON, Path. Trans., vol. i., 1846- 47, and 1847- 48, p. 244.	M	42	A zigzag lacera- tion of the internal and middle coats just above the aortic orifice	Separation of the external from the middle coat	Extending upwards from the seat of rup- ture for two inches	Ascending aorta much dilated, and inner coats thickened and roughened by opaque deposit	Pericardium distended by blood, which had escaped from a small oval open- ing	—	Sudden death
40. BOULLAUD, Arch. Gén. de Méd., 4me ser., T. xv., 1847, p. 248. Described as an anomaly of the Aorta.	M	36	Two openings from the left ven- tricle, communicat- ing with canals which are reported as double aortæ	—	These two trunks followed the whole course of the aorta, and opened into common iliacs; the other branches were, some connected with one canal, others with the other	Heart very large, and weigh- ed 650 grammes; white spots on pericardium; great hyper- trophy and dila- tation of cavities, and valves dis- eased	Obstruction to circulation	1 year	The symptoms commenced sud- denly a year be- fore death, after making an effort. They were those of cardiac disease and continued till death
41. CRUVEILHIER, Bullet. de la	M	40	Tearing of the tissues of the aorta	—	Dissecting aneur- ism of aorta and ar- teria innominata	—	Blood effused in pericardium	—	The patient complained of colic pains, and

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Soc. Anat., 24 ^{me} année, 1849, p. 227.	M	50	Rent in inner and middle coats of aorta at the arch, near the origin of the left subclavian artery, involving two-thirds of the circumference of the vessel	External coat separated from the middle	The separation ex- tended above to the origin of the aorta, and an inch below the rent	Aorta athero- matous; slight hypertrophy of left side of heart	—	—	died suddenly during the night
42. PIRRIE, Monthly Journ. of Med. Sc., vol. viii., N. S., vol. ii., 1848, p. 363.	M	52	Transverse rup- ture, extending for three-quarters of an inch, beneath the origin of the left subclavian ar- tery, at the upper and outer part of descending aorta	The separation was chiefly be- tween the la- minæ of the middle coat; partly between the external and middle coats	The separation ex- tended along the course of the aorta as far as the iliaes	Aorta athero- matous; heart enormously en- larged; mitral and aortic valves slightly thick- ened	Blood had es- caped into medi- astinum and left pleural sac	—	The patient had been three years hemiplegic and suffered latterly from dyspnoea, palpi- tation, &c. She died suddenly, and blood was found to have been extrava- sated in pons Varolii and cor- pus striatum
44. PEACOCK, Monthly Jour- nal of Med.	M	44	An irregular slit immediately be- hind the arteria innominata, ex-	The sac was formed in the layers of the middle coat	The dissecting a- neurism was situated at the arch and in the descending aorta, and	Ascending aor- ta much dilated and coats thin, and in places	A transverse slit about an inch in length, through the	18 hours	Suffered from palpitation for twelve years, since receiving a

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Science, vol. ix. (N. S. vol. iii.) p. 1052, 1849.			tending through only a portion of the middle coat		extended from the ar- teria innominata for about four inches	atheromatous; heart very large (twenty ounces); old lymph in pericardium; a- ortic valves dis- eased and in- competent, mitral also thickened; general hyper- trophy and dila- tation	whole of the coats of the a- orta, near the valves, allowing the escape of blood into the sac of the peri- cardium		blow on the chest; symptoms of ob- structive and regurgitant dis- ease of the aortic valves. Sud- denly taken in the morning, af- ter being hurried and excited, with pain in the re- gion of the heart, urgent dyspnoea and collapse, and died in about eighteen hours
45. FOLLIN, Comptes Ren- dus et Mé- moires de la Société de Biologie, 1 ^{re} année, 1849, Paris, 1850, p. 202.	F	Aged	Transverse tear, about a centimetre in length, at the convexity of the arch	Extravasation of blood be- neath the cellu- lar coat	The sac occupied the portion of the aorta covered by the pericardium	The coats of the aorta healthy, except that there were some milky spots	Pericardium distended with blood, which had escaped from a rupture of the cellular coat at the commence- ment of the arch of the aorta; the rupture being in the most promi- nent part of the extravasated blood	—	No history. Body dissected at the Ecole Pratique

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46. SAINET, Bullet. de la Soc. Anat., 26 ^{me} année, 1851, p. 25.	M	42	A tear of the internal coats of the aorta, following a transverse direction and occupying one-third of its circumference, and situated immediately above the aortic valves	—	The sac was of small size	Coats of the aorta not thickened or bony	Pericardiac cavity filled with blood, which had escaped from a rupture the size of a pin's head	—	The patient had become rapidly paraplegic. He died suddenly
47. BROCA, Bullet. de la Soc. Anat., 27 ^{me} année, 1852, p. 273.	F	77	A rupture of the internal coats of the aorta below the origin of the arteria innominata	The external coat remained entire and formed the boundary of the extravasation	The separation extended downwards, in the course of the aorta, from the seat of rupture	The aorta was uniformly dilated and its coats atheromatous, & the internal tissues were eroded in places	The blood had escaped into the cavity of the pericardium by the rupture of the external coat	—	The patient died suddenly in a fit of passion
48. GOURIL, Bullet. de la Soc. Anat., 28 ^{me} année, 1853, p. 276; Case under the care of M. Briquet, and accompanied by a Report by M. Leudet on similar cases.	M	52	The rupture was oblique and resembled a cut, and was situated above the aortic valves	The aneurismal sac was found below the outer coat and between it and the middle	The separation extended from the origin of the aorta to the arteria innominata; along that vessel and its branches, then along the left carotid and subclavian arteries, and into abdominal aorta: it communicated with the trunks of some of those vessels, and there were openings	Heart large; aortic valves thickened and scarcely competent	Fluid contained in the pericardium. Death from cardiac obstruction	11 years	Suddenly attacked in 1842, when in the street, and without obvious exciting cause, with faintness, followed by cardiac symptoms, and survived till 1853, suffering all the time from palpitation, dyspnoea, &c.

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49. CADET GASSI-COURT, de la Bullet. de la Soc. Anat., 30 ^{me} année, 1855, p. 352.	F	33	A very irregular opening, as if produced by a tear of the two internal coats, shortly above the aortic valves	Separation bounded by the external coat and situated between the external and middle coats	in other parts between the sac and the original trunk To very slight extent	Great hypertrophy and dilatation of the heart, with thickening of the aortic valves	Old adhesions of the pericardium: died from cardiac obstruction	Uncertain	Repeated attacks of Rh. Ac., and symptoms of cardiac disease of eighteen years' duration
50. VIBERT, de la Bullet. de la Soc. Anat., 31 ^{re} année, 1856, p. 85.	F	71	A perpendicular rupture, commencing three centimetres from the origin of the aorta, and two centimetres in length	The separation was situated between the external and middle coats	The separation occupied the anterior surface of the aorta, and extended from its origin to the arteria innominata	Aorta dilated and coats atheromatous and roughened at the cross; slight induration of the valves and hypertrophy of the left ventricle	Irregular laceration, by which blood had escaped into the cavity of the pericardium	—	Sudden death
51. LABORDE, Comptes Rendus et Mémoires de la Société de Biologie, T. 1 ^{re} de la 3 ^{ème} série, année, 1859, Paris, 1860. p. 30.	M	74	Longitudinal rupture at the origin of the aorta	Separation between the pericardiac covering and the cellular coat of the aorta	At the origin of the aorta	Some dilatation of the aorta, and slight specks of atheroma and bone; heart somewhat hypertrophied	A longitudinal rupture of the pericardium, allowing the blood to escape into the sac	—	An old inmate of the Bicêtre, bedridden. Sudden attack and death before the interne reached him

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52. BARKER, Med.-Chir. Trans., N.S., vol. xxv., 1860, p. 131.	M	24	A laceration an inch and a-quarter long, situated from half-an-inch to three-quarters of an-inch above the aortic valves, a second smaller rup- ture behind this	The separation between the cel- lular coat and the pericardium	The separation was limited to the origin of the aorta and the adjacent parts of heart	Congenital fu- sion of two of the aortic valves; dilatation of as- cending aorta; great contrac- tion or entire obliteration of aorta distal to left subclavian artery of heart	Rupture into the pericardiac sac and escape of blood, with re- sults of pericar- ditis	17 days	Sudden attack while lacing his boot, with pain in the left side of head, passing to left arm and side and across part of chest, with dyspnoea, palpitation, &c. The symptoms continued, and he died suddenly
53. LATHAM and SWAINE, Path. Trans., vol. vii., 1855- 56, p. 106.	M	51	Transverse and circular rent of in- ternal and middle coats of aorta, a few lines below the origin of the left subclavian artery, partly clean, as if cut with scissors, partly ragged	The external coat of the aorta separated from the middle	The separation ex- tending to the com- mon iliac arteries	Heart very large, firm, and heavy; left ven- tricle dilated and walls thickened; mitral and aortic valves diseased	Died from sym- ptoms of obstruc- tion to circula- tion, &c.	3 months	When labour- ing under sym- ptoms of old dis- ease of heart, suddenly seized when walking with pain at the chest, and felt as if something had burst, fol- lowed by loss of power over lower extremities. The nature of the disease diagnos- ed during life

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54. CALLENDER, Path. Trans., vol. viii., 1856- 57, p. 164.	F	—	Transverse rent in inner and part of middle coats of aorta, situated two inches and a-half below the left sub- clavian artery, and extending through two-thirds of cir- cumference of the vessel	The separation was between the layers of the middle coat	The separation ex- tended from the ori- gin of the left sub- clavian artery to the point of exit of renal artery. The sac formed an oval tu- mour at its upper part	The thoracic aorta was greatly dilated and athe- romatous, and displayed small pouches in places. The left cavities of the heart were dilated, but other- wise healthy	The sacculated portion of the aneurism was ruptured, and the blood had escaped into left pleural sac	7 days	Had sustained injuries and died suddenly seven days after
55. WILKS, Path. Trans., vol. xi., 1859- 60, p. 58.	F	62	Three ruptures about one and a- half to two inches above the aortic orifice, following a longitudinal and transverse course, involving the in- ternal and middle coats	The sac was situated be- tween the middle and external coats, and only a few fibres of the middle were separated with the external coat	The separation ex- tended upwards to behind the valves and along the greater curvature of the a- orta to the origin of the left carotid ar- tery	Aorta greatly dilated and athe- romatous; coro- nary arteries diseased; mus- cular structure of heart somewhat fatty and valves slightly rigid	A longitudinal rupture of the external coat, by which blood had escaped into the sac of the peri- cardium	5 days	Suddenly at- tacked with syn- copic symptoms after walking and ascending stairs, followed by pain at chest. Partial rally, and death suddenly five days after
56. MITCHELL, Med. Times and Gazette, vol. ii., for 1860, p. 208, Case at Lon- don Hospital.	M	45	An elongated tear of the inner coats of the aorta at the posterior part of the ascend- ing portion	The separation was partly be- tween the exter- nal and middle coats, partly be- neath the peri- cardium	Involved the peri- cardiac portion of the ascending aorta	Aorta, from its origin to the arch, greatly di- lated	A rupture of the pericardium, by which the blood escaped into the sac	—	Suddenly seized when rising to whip a horse, and became in- sensible, and col- lapsed, and was apparently in great pain. Died in a few minutes

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57. WILKS. Path. Trans., vol. xii., 1860- 61, p. 67.	F	75	A vertical fissure above the bifurca- tion of the aorta, about an inch in length, involving the internal and middle coats	The sac bound- ed externally by the outer coat, and situated within the coats	The sac followed the course of the ves- sel for five inches and was about two inches wide	Inner coat of the aorta exten- sively diseased, displaying osse- ous plates and fissures	Which under notice displayed febrile symptoms	—	after admission into the Hospital No history. Only in the Hos- pital three days. Doubtless of old date
58. DICKINSON, Path. Trans., vol. xiii., 1861- 62, p. 48.	M	32	A transverse rent of the inner coats, half-an-inch above the aortic valves, involving two- thirds of the cir- cumference of the vessel	The separation was at first be- tween the middle and external coat, and afterwards be- tween the layers of the middle coat	From behind the aortic valves through the thoracic portion of the aorta	Lining mem- brane of the a- orta free from disease, except two or three specks of athero- ma; heart rather large	The outer coat was ruptured so as to allow blood to escape into the pericardium	Less than one day	A policeman suddenly seized after having been seven hours on his beat, with loss of power over lower ex- tremities, and collapse; par- tially rallied and suffered pain, dyspnoea, and palpitation; and died suddenly in less than twenty- four hours
59. BRISTOWE, Path. Trans., 1862-63.	M	27	Long transverse rent through the internal and part of middle coat in	Between the layers of the middle coat, a small portion of	Over a considerable portion of the ascend- ing aorta	Ascending a- orta dilated and coats thinned, but not diseased	Longitudinal rent of the outer wall into the cellular tissue	4 days	Seized on Sa- turday when carrying a ladder with faintness,

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			the ascending por- tion of the aorta	the middle being reflected with the external			and pericardium; cavity found distended with blood		followed by pain in the region of the heart; on Wednesday had a return of pain and difficulty of breathing, and died in a short time
60. GASKOIN, Path. Trans., 1862-63.	F	65	Longitudinal rup- ture immediately above the valves, through first a part, and then the whole of the middle coat	The separation was first in the layers of the middle coat, then between the middle and ex- ternal coats	Small extent of separation at the origin of the aorta	Aorta athero- matous and a- ortic valves dis- eased	Rupture first into the cellular tissue, and then into the pericar- dium	—	Found dead in bed. Had had a fall two or three days be- fore
61. ROKITANSKY, Ueber einige der Wichtigsten Krankheiten der Arterien, Wien, 1852, Several of these cases had been previous- ly published in 1837. BEOBACHTUNG 23.	M	76	Transverse rup- ture of internal coats of aorta near origin	The separation between the ex- ternal and middle coats	The separation ex- tended from the origin of the aorta to the point of departure of the left subclavian artery	Aorta dilated; heart large and fatty; ossifica- tion of aortic valves	The sac rup- tured into the pe- cavity of the pe- ricardium	—	Sudden death

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62. ROKITANSKY. BEOBACHTUNG 24.	M	63	Transverse rupture of internal coats of ascending aorta	Separation of the external from the middle coat	The separation extended to the arch and reopened into the vessel	Aorta dilated and atheromatous; old disease of the heart; very great hypertrophy and dilatation	The sac ruptured into the pericardium, where also there were old adhesions	Died in about 18 hours	Sudden death after an attack of pneumonia; had had several attacks of Rh. Ac., and for several years suffered from palpitation and dyspnoea
63. <i>Ibid.</i> BEOBACHTUNG 25.	F	52	Rupture situated above the aortic valves	The external coat and a portion of the middle separated	The separation occupied the ascending portion of the aorta	Aorta dilated and coats thickened, and with osseous plates; hypertrophy and dilatation of heart	Ruptured into the pericardium	—	Sudden death
64. <i>Ibid.</i> BEOBACHTUNG 26.	F	52	Tearing of the coats of the artery above the valves	External coat separated	The separation extended to commencement of the abdominal aorta	—	—	—	Sudden death
65. <i>Ibid.</i> BEOBACHTUNG 27.	F	78	Transverse rupture of the internal coats shortly above the valves	The external coat and a part of the middle separated	The separation extended from the commencement of the aorta to the arch	Aorta dilated and coats thickened with osseous plates; heart large and some mitral disease	Ruptured into the pericardium	—	Sudden death

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66. <i>Ibid.</i> BEOBACHTUNG 28.	M	60	Transverse tear of internal coats between the arteria innominata and left carotid	The external coat separated from the middle	At the arch near the seat of rupture	Aorta dilated; heart hypertro- phied and dilated	Ruptured into the pericardium	—	Sudden death
67. <i>Ibid.</i> BEOBACHTUNG 29.	M	22	Two tears shortly above the valves, one transverse, the other longitudinal	External coat separated from the middle	From the origin of the aorta to beyond the arch	Aorta dilated; heart hypertro- phied and dilated	Ruptured into the pericardium	Some hours	Sudden seizure
68. <i>Ibid.</i> BEOBACHTUNG 30.	M	80	Transverse tear above the aortic valves, and a se- cond before the origin of the arteria innominata	Separation of the external coat	Over a portion of the ascending aorta	Aorta dilated and coats dis- eased; heart hy- pertrophied and dilated	Ruptured into the pericardium	—	Sudden death
69. <i>Ibid.</i> BEOBACHTUNG 31.	M	70	Two transverse tears, one near the valves, the other below the origins of the arteria inno- minata and left carotid artery	The outer and part of the mid- dle coat separated	At the ascending a- orta and arch	Aorta dilated and coats thick- ened and dis- eased	Ruptured into the pericardium	—	Sudden death
70. <i>Ibid.</i> BEOBACHTUNG 32.	M	74	Long tear of in- ternal and part of middle coat above the valves	External coat and part of the middle separated	Over the whole thoracic aorta, and the sac dilated	Coats of aorta thickened; heart hypertrophied and dilated	Ruptured into the pericardium and mediastinum	—	Taken in street, and rapidly died

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71. <i>Ibid.</i> BEOBACHTUNG 33.	M	60	Long tear above the valves of in- ternal and part of middle coat	External and part of middle coat separated	From the origin of the aorta to its bi- furcation	Aorta dilated, and coats dis- eased; heart large	Ruptured into the pericardium	—	Sudden death
72. <i>Ibid.</i> BEOBACHTUNG 34.	F	55	Horizontal tear of the internal coats above the valves	External sepa- rated from the middle coat	Near the seat of the internal rupture	Aorta dilated; heart large and flaccid	Ruptured into the pericardium	—	Sudden death
73. <i>Ibid.</i> BEOBACHTUNG 35.	F	73	Long tear of the internal coats a- bove the valves	External coat separated from the internal coats	In the neighbour- hood of the internal tear	Aorta dilated, and coats with osseous plates; heart fatty	The sac rup- tured into the pericardium	—	Sudden death
74. <i>Ibid.</i> BEOBACHTUNG 36.	M	56	Tear of the inter- nal coats immedi- ately behind the valves	Separating the valves from the coats of the vessel	At the seat of the tear	Heart enlarged and fatty	Endocarditis; escape of blood into the pericar- dium	—	Symptoms of disease of the heart of some months' duration
75. <i>Ibid.</i> BEOBACHTUNG 37.	M	44	A recent and ir- regular tear of the inner coats, with a healed rupture immediately above the valves	The external coats separated from the internal	At the seat of rup- ture	Aorta dilated and coats dis- eased; heart hy- pertrophied and dilated	Tear of the outer coat and pericardium and escape of blood into the sac	—	Sudden death
76. <i>Ibid.</i> BEOBACHTUNG 39.	F	23	Recent laceration of the internal coats above the valves, with a healed tear in con- nection with it	Blood extra- vasated beneath the external coat	For a small space near the rupture	Ascending a- orta dilated; two valves to aortic orifice; left side of heart hyper- trophied and di- lated	Rupture of the external coat and pericardium and escape of blood into cavity	—	Sudden death

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77. <i>Ibid.</i> BEOBACHTUNG 42.	F	50	Tear of internal and part of middle coat near the ori- gin of the aorta	Separation of the external and some portion of the middle coat	Over the whole of the ascending aorta	Ascending aorta dilated and coats diseased; heart large and fatty	The sac rup- tured into the pericardium	—	Died during the night
78. <i>Ibid.</i> BEOBACHTUNG 43.	F	48	Tear of inner and part of middle coat, shortly above the aortic valves	Separation of external and middle layer of coat by extra- vasated blood	At the seat of rup- ture	Aorta dilated and its coats dis- eased; aortic valves diseased; heart hypertro- phied and dilated	Ruptured into the pericardium	—	Died during the night
79. <i>Ibid.</i> BEOBACHTUNG 44.	M	51	Tear of the inner coats of the ascend- ing aorta	Separation of the outer coat	Near the seat of rupture	Aorta dilated and coats thick- ened and much diseased	The outer coat was torn and blood had escaped into the pericardium	—	Sudden death
80. <i>Ibid.</i> BEOBACHTUNG 45.	M	73	Irregular tear of internal and part of middle coat, shortly above the valves	Separation of the outer from the middle coat by extravasated blood	Near the seat of rupture	Ascending a- orta dilated into a sac, and coats indurated; heart large and walls thickened and loaded with fat	The outer coat was torn and then ruptured into the pericar- dium	—	Sudden death



