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## Original Communications.

### ANEURISM OF THE THORACIC AORTA.\*

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GENTLEMEN,—Before entering on the discussion of this case of aneurism which I bring before you to-day, let us dwell for a little on the causes of aneurism other than traumatic cases. Preceding the development of aneurism there is weakening and loss of elasticity of the wall of the artery; to this there are very few, if any, exceptions, as a healthy artery will probably resist successfully the highest blood pressure that can be brought to bear on it. The weakening of the arterial wall is usually due to atheroma; other occasional causes are simple inflammatory softening from trauma, or rheumatism, calcifications, and fatty degeneration. Disease of the artery occurs as a senile change, but may be produced at early age by syphilis, gout, Bright's disease, chronic alcoholism, lead poisoning, etc. In the ordinary course of events, in late middle life, the arteries, at least the larger ones, begin to suffer from senile change before the heart shows any signs of failure. This may be called the "aneurismal age," as the weakened arteries are apt to give way before the pressure of the blood forced into them by the still vigorous heart. Aneurism is therefore most frequently met with in persons from 40 to 50 years of age; they are very rare before 30, because the walls of the arteries are yet seldom diseased; and they are rarer still after 60, because, though the arteries may be much weakened by senile changes, not only has the heart lost much of its vigor from the same cause,

but the volume of blood in the body is now so much diminished that it would be scarcely possible to raise the arterial tension sufficiently to cause aneurismal dilatation even of the weakened arteries.

From what has been said you will see that while disease of the arterial walls is the predisposing cause of aneurism, the active agent in their production is increased blood pressure. The wall of the artery may become so weak that even the extra pressure induced by coughing may be sufficient to cause it to give way. Hence it will be readily seen how occupation has an important bearing on the production of aneurism. Those people who are engaged in heavy labor, and therefore subject to great strain, are most liable to aneurism. But straining not only tends to cause the weakened arterial wall to give way, but, by causing repeated over-distension, will lead to degeneration of the vessel wall, and thus prepare the way for its aneurismal dilatation.

The clinical history and symptomatology of aneurism of the aorta is well illustrated by the patient before you. The disease may begin with a sudden onset of symptoms, or by a gradual failure of health; this case is one of the first and more usual class. The following extract is from the history taken by Mr. H. Grundy:

Edward A., aged 49, Irish, good family history. His own history good except some rheumatism in 1866 and 1872; had gonorrhœa many years ago; served as a cavalry soldier for 20 years; took also much gymnastic exercise. Last July, while lifting some heavy timber, he felt a sharp, shooting pain in right chest, in which some pain has continued ever since, with exacerbations, and often shoots through the chest and into the shoulder; also a peculiar metallic cough, increased by exercise; little or no expectoration. His breath is short and the respiratory murmur is weak all over right lung—normal over left. His chest is well developed and shows some bulging over right 2nd and 3rd costal cartilages, which, however, was probably produced during boyhood, or while a soldier. In the region of this bulging, pulsation is to be seen extending three inches to the right of sternum. Over this area there is absence of respiratory sounds; no murmur, but great accentuation of 2nd sound of the heart; using a solid stethoscope there is well marked systolic and slight diastolic shock felt by the ear. There is dullness and increased resistance

\* Abstract of a Clinical Lecture delivered at the Toronto General Hospital, Dec. 17th, 1888.