ON ANEURISM ON THE PULMONARY ARTERY, AS A SOURCE OF HÆMOPTYSIS.

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IN November 1865, a case of extensive and suddenly fatal hæmoptysis occurred to one of my hospital patients, and in searching at the *post mortem* examination for the source of the hæmorrhage, there was discovered a small and ruptured aneurism of a branch of the pulmonary artery in its passage through a vomica. This case was reported in the hospital records of the *Medical Times and Gazette* of January 13th, 1866.

A few months after this, a very similar case came under the notice of my colleague Dr. Quain, who brought it before the Pathological Society. (*Path. Soc. Trans.*, vol. xvii, p. 79.) Soon afterwards, a second case occurred in my own hospital practice, and was briefly reported in the *Medical Times and Gazette* of October 20th, 1866. A third case having very recently presented itself in my hospital wards, I propose placing the three together, and making them the subject of the present paper, believing that they will establish a new and important practical fact.

CASE I.—E. C., aged 20; male. Phthisis of ordinary character, but of rapid progress, having run its entire course in about four months. Hæmoptysis of moderate degree presented itself early in the disease, but was easily controlled. The expectoration continued to be streaked until within three days of the patient's death. At this period hæmoptysis suddenly occurred to the extent of half a pint, and continued more or less until death, which resulted from exhaustion consequent upon the sudden expectoration of about twelve ounces of very florid blood.

POST MORTEM EXAMINATION.—The body was emaciated; there was great anæmia. The right lung was pale and emphysematous, with a small tubercular cavity at its apex. The left lung was small and dense, and studded throughout with tubercle in various stages, and minute cavities. A large excavation occupied a great portion of the upper lobe, whilst a smaller cavity was found in the lower lobe. In the inferior and anterior part of the latter cavity a small clot was discovered, concealing a small aneurism on the cavity side of a moderate-sized artery running in a direction transverse to the lower end of the excavation. The aneurism occupied the whole of the exposed part of the artery, but, owing to a constriction in its middle, presented the appearance of two aneurisms. The greater dilatation was about the size and shape of a very large pea, and was not ruptured; the other dilatation was a trifle smaller, was filled with an adherent clot, and had a small opening in its upper part. The artery itself, close to the dilatation, measured transversely two-eighths of an inch. The heart was healthy.

CASE II.—W. J., aged 27; male. An ordinary case of phthisis of twelve months duration. In the early part of the disease the patient spat up about half a pint of blood, but never had a return of this symptom until he had been two months in the hospital, when he suddenly expectorated nearly two pints. The following day he coughed up about a pint more, and the succeeding day quite as much. For five successive days he continued to expectorate daily from five to ten ounces of blood, and then gradually sank from exhaustion.

POST MORTEM EXAMINATION.—The right lung was full of tubercular matter, and at its apex there was a small cavity. The left lung was contracted and had, in its upper lobe, three considerable vomicae. The lowest of these contained an aneurism of the pulmonary artery coming off from a vessel running along its lower wall, the vessel itself being about the size of a crow-quill, and the aneurism about as large as a walnut. The wall of the aneurism, at a point opposite its attachment to the artery, exhibited a rugged opening, from which the hæmorrhage had evidently taken place. The inner surface of the aneurism was lined by a fibrinous lamina of varying thickness, and its cavity contained a recently-formed clot.

CASE III.—P. D., aged 15; male. A case of phthisis exhibiting in its early stages nothing worthy of special notice. The patient had been ill nearly two years, but never had hæmoptysis until he had been in the hospital more than two months, when he suddenly expectorated quite twenty ounces of florid blood. From this time until his death, which occurred about ten weeks afterwards, he continually spat up more or less blood. On one occasion, the quantity was measured, and found to exceed three pints; whilst, on another occasion, at least a pint and a half was coughed up. The patient at length sank from exhaustion.

POST MORTEM EXAMINATION (conducted by my colleague, Dr. Douglas Powell).—The body was much emaciated, with marked anæmia. The right lung contained at its apex a small cavity, surrounded by scattered tubercle. The left lung presented in its upper lobe an irregular cavity of considerable size, lined by false membrane, and containing a par-

tially decolorised clot. Immediately below this cavity, laterally and near the surface, was another cavity about the size of a Tangerine orange, which was nearly filled with a flaccid and partially collapsed bag having very thin and friable walls. This bag or aneurism arose from a large branch of the pulmonary artery, of which it was evidently a dilatation, and contained only a small coagulum. The vessel itself, when dissected out, was found to be one of the primary divisions of the left branch of the pulmonary artery. The aneurism was free from fibrinous deposit,

A. Vomica near surface of lung. B. Aneurism of pulmonary artery nearly filling up the vomica. C. Pulmonary artery.

and was of sufficient size, when distended, to fill up pretty accurately the vomica itself. (See drawing.) The situation of the rupture was at its upper part.

In the three cases thus briefly, but perhaps sufficiently, described, the aneurismal dilatations of the pulmonary artery, however differing from each other in size and conditions, evidently arose from a similar cause. Instead of the artery either terminating abruptly at the circumference of the vomica, or running along its walls as a partially or completely obliterated vessel—as usually happens in cases of tuberculous cavities—it had remained pervious, and from losing the support of the surrounding lung tissue on the cavity side of its walls, had become dilated into an aneurismal pouch.

There appears to have been no one symptom common to all three cases, except the sudden, severe, and uncontrollable hæmoptysis. It is unlikely therefore, that, except in some very unusual case, however much the pathological condition I have described may be suspected, it can be certainly diagnosed during the life of the patient. I think, however, it may now be fairly established that the rupture of an aneurismal dilatation of a branch of the pulmonary artery within a tuberculous cavity is not merely—as I confess I believed, when the first case came under my notice—a pathological curiosity, but a condition which is not only far from being infrequent, but also one of considerable practical importance, as the probable explanation of numerous cases of extreme and suddenly fatal hæmoptysis occurring during the last stage of consumption.

CONGESTION OF THE EYEBALL IN A CASE OF DISEASE OF THE PONS.

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IN the *JOURNAL* of October 3rd, Dr. Ogle quotes a case of extravasation of blood within the pons Varolii, in which a remarkable alteration in the size and form of the pupil occurred, together with a prominent state of the globe.

I have this morning again visited a patient whom I saw eight months ago with my friend Mr. Hickenbotham. In May 1867, she suffered a sudden attack of *left* hemiplegia (the tongue deviating to the left side), accompanied by considerable paralysis of the *right* portio dura. Three or four days after her attack, one eye (Mr. Hickenbotham is not certain which one) became much congested and swollen, and continued so for three days. I now find the patient in a state little better than was her condition ten months ago; but I learn that she is subject to very frequent return of the congestion in the right eye (the side of the paralysis in the face). Once only has the left eye been similarly affected. There is no lachrymation, nor can I learn that the face is flushed at the time. My friend cannot tell me what is the condition of the pupils. At the present time, they are equal, active, and of normal size and shape. There is no prominence of the globe.