REMARKS ON A CASE OF ANEURYSM OF THE EXTERNAL ILIAC ARTERY; DIGITAL AND INSTRUMENTAL COMPRESSION; COMPLETE CURE.

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THE cure of the case of aneurysm now to be recorded must, I think, be credited to digital compression of the afferent artery, although at the moment of consolidation compression had been discontinued.

H. D., aged 48, a porter, was admitted into University College Hospital, under my care, on April 7th, 1887, suffering from a large aneurysm of the left external iliac artery. His personal history was excellent. He was splendidly developed, was over six feet high, and had suffered from no illness of any kind, except gonorrhoea at the age of 20, until the present affection, which commenced about one year before admission. Syphilis, gout, rheumatism, and arterial degeneration were strongly negatived, both in his personal and family history.

About twelve months ago a small lump was noticed in his left groin, which had steadily increased to its present size. Its appearance was attributed to a severe strain in lifting. The tumour, which presented all the typical features of an aneurysm, was about 5 inches in its vertical diameter. Its inner border, which was perfectly defined, reached nearly to the pubic spine, its outer almost to the anterior iliac spine. All pulsation could be stopped by pressure just below the bifurcation of the aorta, and also more easily by the point of the finger placed over the line of the external iliac artery, but below the upper border of the aneurysm, as though the vessel were compressed easily against the latter. This fact, taken with the shape of the tumour, suggested that the latter was of the sacculated variety, and probably sprung from the posterior aspect of the artery. The portion of the swelling lying below Poupart's ligament tapered somewhat. The whole tumour showed very forcible expansile pulsation, and looked very formidable. The veins on the front and side of the thigh were enlarged, and the limb was found to be larger than its fellow. There was very slight pitting on pressure over the thigh. During the last two or three months the leg had sometimes become quite numb, and he had suffered much pain after exercise, especially down the front of the thigh. This had been sufficient to keep the patient awake at night occasionally. Careful examination failed to detect any abnormality in the heart, lungs, or kidneys.

From the fact that the circulation in this aneurysm could be easily controlled by pressure over one comparatively superficial spot on its upper border, and from the probability of its being sacculated, I was led to hope that it might be cured by digital compression, in spite of its formidable dimensions and appearance. I was further encouraged by successful results in two cases already published in the BRITISH MEDICAL JOURNAL (1883 and 1884), in one of which I was able to effect consolidation of a popliteal aneurysm in six hours and a quarter, and in the other in eight hours, by digital compression. The present case, however, appeared to offer a much severer test of this method than either of the two first, on account of the size of the sac and afferent vessel and its seat in the abdomen, as well as the very forcible heart-stroke which had to be contended against. The first thing to be done, then, was to reduce the latter as far as possible by rest in bed, low diet, and free purgation, which was accordingly kept up from April 7th to 13th, with the result that the arterial tension was very considerably lowered, and that the expansile stroke in the aneurysm became distinctly less angry. The reduction of food never quite reached Mr. Tufnell's regimen, but was not far from it.

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On April 13th, having secured the ready services of several of our students, to whom I desire here to express my indebtedness for their zeal and patience, digital compression was commenced at 10.45 A.M. The points pressed upon varied between the bifurcation of the aorta and the before-mentioned spot on the border of the tumour at which the circulation was most easily controlled. Each pair of students took twenty minutes, relieving each other every five minutes or so. The patient bore the compression well until evening, when he became irritable, and the skin grew tender and red. Compression was stopped at 8.45, when it was noted that there was an impression that the tumour was somewhat better defined and perhaps smaller. He slept well after a small dose of morphine.

On the 15th digital compression was carried out in the same way for five hours and a half. After the first hour great numbness was felt in the leg, which was then wrapped in wool, and a little later the patient felt sick. When compression had ceased I felt sure there was some improvement in the aneurysm as to size and hardness.

On the 18th digital compression for six hours was better borne, and apparently with some further benefit to the aneurysm.

On the 19th, after consultation with Mr. Heath, I determined to try instrumental compression, and accordingly began with Carte's abdominal instrument, which I kept in good position for three hours myself. After this the patient found the pain unbearable, and asked for a discontinuance of this treatment, and that the artery should be ligatured. All this compression appeared to have benefited the aneurysm somewhat, but the expansile pulsation in it was still very formidable.

On the 20th the patient was prepared for operation and put under the influence of chloroform. This seemed to produce considerable excitement, so that when he was on the operating table I was obliged to wait for about ten minutes, feeling, as I pointed out to those present, that there would be considerable risk in dissection in the neighbourhood of so large an aneurysm pulsating violently at about 120 per minute. At the end of about ten minutes, however, when deeply narcotised, the pulse quieted down considerably, and the skin incision was made. While drying this out with a sponge before dividing the external oblique, the patient made a brisk movement with his leg, and immediately afterwards I noticed that all pulsation had ceased in the tumour. This was difficult to believe at first, but was perfectly obvious to all present on careful examination. Nothing remained now but to close the skin wound and put the patient to bed, where the chloroform was continued for a quarter of an hour longer. This consolidation was permanent, and the aneurysm contracted in the usual way from day to day. The skin wound healed by first intention under one dressing, and the patient left the hospital three weeks after operation. He was seen quite well later on on his return from the seaside, the aneurysm being solid and much shrunken.

As to the exact mechanism of the sudden consolidation in this case, many interesting hypotheses might be suggested. My own belief, however, is that during the three periods of digital and one of instrumental compression, a certain amount of clotting must have taken place in the sac, and that during the struggling and vascular excitement incidental to the administration of the chloroform some of this clot was dislodged from its bed, and was carried into the lower orifice of the aneurysm, completely blocking it and causing consolidation behind it in the tumour. The rapid churning up and down in the sac just before I made the incision in the skin was very remarkable and disturbing, as I pointed out to those present, and necessitated a pause of several minutes before I could venture to use a knife so close to the tumour. Such a disturbance of the circulation would, I think, be very likely to produce displacement of existing clot, especially if accompanied, as in this case, by brisk movements of the thigh, which could hardly fail to affect the shape of the sac, inasmuch as the latter was crossed in its middle by Poupart's ligament.

This case, taken together with the two others alluded to above, have encouraged me to place considerable reliance upon digital compression for the cure of aneurysms. At the same time the risks of ligature of arteries have been so reduced of late years by aseptic surgery, that I should not be inclined to persist too long with the digital treatment, but would have recourse to the ligature when the latter had had a fair trial for a reasonable time. We can hardly shut our eyes to the fact, however, that there are some patients who have an almost unconquerable aversion to any form of cutting operation, and who will readily submit to the delay and inconvenience associated with the milder method rather

than permit recourse to the ligature. For such, digital compression will always have great attractions.

This case also suggests whether the older practice of manipulation of the aneurysm with a view to dislodgment of clots might not more frequently be resorted to, at all events in those cases where the disease is situated in the lower half of the body or at the shoulder.

AN ADDRESS

ON

THE TEACHING OF ANATOMY.

Delivered in the Section of Anatomy at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

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THIS is a favourable time for a discussion upon the teaching of anatomy, and this Anatomical and Physiological Section is particularly qualified for the task. Questions of medical education and reform have come to the front, and the position and claims of the science, which is the foundation of medicine and of surgery, and, I might add, of physiology, call for recognition.

Since you have done me the honour to consider me competent to open this debate, I propose, without further preface, to endeavour to indicate some of the questions which are ripe for discussion.

It is an elementary rule of controversy which lays down that terms should be defined and propositions proved. I am fully aware of the danger of attempting definitions, yet, to facilitate this debate, the risk must be faced; and, in the first place, it is necessary to say what is meant by anatomy.

The science of anatomy is of such extent that I propose to limit myself to a branch of it, namely, human anatomy. If by human anatomy is meant a bare account of the physical characters, structure, and relations of the elements which compose the human body, I would maintain that such a soulless thing is unworthy of being called a science.

Science, Lord Bacon says, is the interpretation of Nature. Anatomists have ceased to be content with structure, they also aim at its interpretation. The success of their efforts is witnessed by the history of the great veins, of the genito-urinary system, of the pineal and pituitary bodies, and, indeed, by the history of almost any part of the human frame.

A due appreciation of any of the systems which have been mentioned calls for a knowledge of biology, for they have been, and are being, elucidated with information from every class of the vertebrate kingdom, and I might add, with much from the invertebrata. Besides this, we must add comparative embryology, which is the very soul and essence of scientific anatomy. Nor does this comprehend all. Histology and microscopic anatomy ought to be mentioned; also the art of dissection and of anatomical preparation.

Although in some schools histology has fallen into the hands of the physiologist, it is certainly the province of the anatomist. Perhaps it has been relegated to another department because it is hardly a study for the anatomical room, and requires a separate place where perfect cleanliness prevails, and where special apparatus can be fitted. However, we would think that the physiologists have enough to do with pure physiology. Histology is best taught by an anatomist, and in a room of its own, which forms a convenient adjunct to the anatomical department.

But placing this aside, a very wide extension has already been claimed for human anatomy. Considered as a science and a training, a vast deal comes within the province of its teachers. However, I take it that we are met here to state how much pertains to medicine, and, further, how that which does pertain ought to be taught and by whom. The last would be a most difficult question to discuss. If we look upon anatomy as an independent science, it must be taught by those who devote themselves to it alone; but if we look upon it, as I do, as being ancillary to medicine and surgery, then surgeons and physicians are by far the best qualified to focus it upon those subjects.

It would be improper to assume the province of determining the value of any particular part of anatomy; but, ordinarily, the time allowed by the medical curriculum places a limit upon the amount which can be imparted. Many of us earnestly wish that the time was longer, but until that consummation is attained we must deal with things as they are. It is therefore necessary to make a choice, and it seems rational to choose that which is likely to prove of practical use in medicine and surgery. I do not propose to take account of that sort of anatomical teaching which is circumscribed by the requirements of examining bodies, or, indeed, of particular examiners. It deserves the epithet of "cramming," and ought to be discouraged. It ought to be recognised that an examination, besides being a test of knowledge, is educational, and that the questions which are asked determine the direction in which studies are pursued. Examiners who appreciate this truism do much to improve medical education. I fear we shall never make examinations a test of wisdom or of character.

In our schools anatomy is taught in two ways, by lecture and by demonstration. Concerning the former method I presume to say but little. The more scientific part of anatomy ought, I think, to be the province of the lecturer. The minute details of anatomy are hard to show to the crowds who fill the theatres of prosperous schools; they are perfectly well suited for demonstration to small classes. Such a division of labour merely requires an adequate staff of demonstrators.

As usually lectured upon, human anatomy is an analytical study, and this doubtless accounts for much of its difficulty. Minds which have acquired everything synthetically are at a loss when called upon to unravel the intricacies of the human body, and confronted with a mass of unexplained detail many are discouraged at the outset. The case would often be otherwise if a beginning was made with the simplest problems, and if these were gradually elaborated. As an example of what I mean, let me instance the peritoneum and the relations of the blood-vessels to it. How few ever understand the relation of, say, the splenic artery to the greater and lesser sacs, or how it reaches the spleen. This becomes easy when we proceed synthetically, and show the stomach suspended from the spine by its simple straight mesentery, with numerous gastric arteries passing through it to reach the stomach (Fig. 1). In the next stage the mesogastrium bent,

Diagram 1.—S, stomach; MG, mesogastrium.

with its convexity to the left and its concavity to the right (Fig. 2), and a greater and lesser sac formed. Finally, the spleen

Diagram 2.—S, stomach; MG, mesogastrium.