

SELECT CLINICAL REPORTS.

Aneurism of the Internal Iliac Artery.

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THE subject of this unusual complication was a young unmarried woman, 22 years of age. When seven months pregnant she was sent to St. Mary's Hospital as a case of severe pelvic deformity, and as the external pelvic measurements were extremely small Cæsarean section at full term was chosen as the most suitable obstetric operation. No internal examination was made at this time.

On January 2, 1913, the patient was admitted to Hospital for operation, and this was performed six days later. Recovery was uneventful, the pulse and temperature being normal throughout convalescence.

No vaginal examinations were made by either of us until three weeks after operation, when a hard tumour, the size of a tangerine orange, was felt lying to the left of a small anteverted uterus. There was some pulsation present, which led us to suspect the presence of an aneurism, but as the patient complained of no symptoms we thought that the pulsations might be those of the uterine artery stretched over a cyst in the broad ligament, or possibly transmitted through an old inflammatory exudation. The patient was most anxious to return to her home, and was therefore allowed to do so on condition that she reported herself again at the end of a month. When seen again she still complained of no symptoms and appeared to be in perfectly good health. On vaginal examination the tumour was found to be if anything a little larger than when in hospital, and the pulsations were still present, but not so well marked.

We lost touch with the patient till November 1913, eight months later, when she again came down for examination. Her appearance was now much changed, and she was evidently acutely ill. She stated that she had been very ill for three months, and was gradually getting worse. There had been several fainting attacks, and pain was severe in the left hip extending down into the left leg.

Examination revealed a very alarming state of affairs. An indefinite tumour was felt occupying the lower part of the abdomen and extending as high up as the umbilicus. Per vaginam, the small uterus was found pushed forwards and to the right by a large boggy mass filling the pelvis. The mass was extremely tender, but no pulsation could be made out. The patient was admitted to Hospital

immediately, and an operation arranged for the following day. During the night the pain was more severe, and her condition rapidly became worse. The operation was therefore performed rather earlier, but by this time the patient was pulseless and in a dying condition.

The abdomen was rapidly opened, and found to contain a large quantity of free blood, the pelvis being filled with an indefinite mass to which bowel and omentum were adherent. When examining this more carefully its wall suddenly gave way, and there was a rush of bright arterial blood up from the pelvis. An aneurismal sac had evidently ruptured, but its exact situation could not be made out, and as the patient's condition became critical and forbade any further manipulations, the cavity was tightly packed with gauze, and she was sent back to bed, where she died an hour later.

A complete post mortem examination was not obtained, but the pelvic organs were removed *en bloc* through the abdominal incision, and revealed at once the actual nature of the disease, namely, a ruptured aneurism of the internal iliac artery. The pelvic cavity was occupied by a large sac, the walls of which were composed of successive layers of blood-clot. The upper part of the sac had given way and so allowed the contents to escape into the abdomen. There had evidently been a considerable amount of leakage before operation, but the actual rupture took place whilst the latter was in progress. The pelvic organs were displaced by the sac to a marked degree. The uterus as a whole was pushed forwards against the pubes, but in addition there was a marked left lateriversion, the cervix being pushed over to the right of the middle line. The rectum was lifted up from the sacrum and pushed over to the right side of the pelvis, where it was closely related to the right wall of the sac. Within the sac itself was found a small opening communicating with the main trunk of the internal iliac artery about an inch below its origin and just above its division into anterior and posterior branches. The aneurism therefore belonged to the sacculated type. The pelvic arteries were thin-walled and parchment-like, and showed an excess of fibrous tissue; no definite endarteritis, either simple or specific, could be made out.

With regard to the cause of the aneurism, this has evidently to be looked for in the general condition of the patient's arterial system, possibly in the changes in blood pressure consequent on the pregnant and puerperal states. Traumatism would appear to be ruled out, as the child was not born per vias naturales, and there were therefore no internal manipulations apart from those associated with the Cæsarean operation.

We personally believe that the aneurism was present at the time the patient came under our notice, but unfortunately this is not capable of definite proof. It certainly was present three weeks after the Cæsarean section, and had then attained a large size, and from

that time until the fatal termination, ten months later, its progress was fairly rapid. Supposing that an aneurism were present, what would be the effect upon it of pregnancy, labour and the puerperal state?

With the growth of the pregnant uterus, the uterine artery and consequently its parent trunk, the internal iliac artery, have more and more blood to convey into the pelvis, and therefore there is a gradually increasing strain upon the vessel walls, so that the tendency for any weak spot to give way is increased.

During labour, with the strong and intermittent uterine contractions, there result sudden changes in blood pressure in the pelvic vessels, and these would no doubt prove more injurious to an aneurism or portion of diseased vessel wall than the more gradual changes of the pregnant state.

In the present case, however, the patient had no labour pains, so that this could have had no influence upon her condition. After labour two factors have to be considered. When the uterus contracts firmly down upon the vessels within its walls, there is a sudden change in the pelvic blood pressure, and this would be felt most strongly in the internal iliac arteries, especially at their points of division into anterior and posterior branches. Again, with the sudden diminution in size of the uterus, a considerable amount of external support is withdrawn from the aneurism, which is therefore more liable to give way in the face of increased pressure from within.

In the present case the aneurism was no doubt influenced by both these factors, and probably increased considerably in size during the puerperium, with the result that a point was reached where spontaneous cure became impossible and unfavourable progress of the case inevitable.

Aneurism is a disease of middle life, and it is rare to find it occurring in one so young as the subject of this case. McGraw, in the *Transactions of the American Surgical Association*, has reported 64 cases in young people.

The internal iliac artery is rarely affected with the disease at any age, and there are extremely few cases to be found in the literature of the subject.

The writer in *Keen's System of Surgery* does not mention a single case, and Ericson has only been able to find one out of many thousand aneurisms affecting other vessels.

Little¹, in the *Transactions of the Academy of Medicine in Ireland*, has reported a specimen found in an elderly male dissecting-room subject, but was unable to give any clinical details. The aneurism was of the fusiform type, and involved not only the main trunk but also the commencement of the obliterated hypogastric artery.

More recently, Maclaren² has recorded a case occurring after a

confinement in a young woman of 18. Symptoms commenced four days after labour, and in six weeks' time a tumour, the size of a tennis ball, could be felt to the left of the uterus. Maclaren ligatured the main trunk of the internal iliac artery, and the patient made a good recovery. Eighteen months later the tumour, although no smaller, was hard and indurated, but there was still some pulsation to be made out.

Delivery was effected with forceps in this case, and the author considers that a laceration produced by these was probably the exciting cause of the aneurism. This is no doubt a feasible explanation, but if injuries during labour really played such an important part one would expect to find aneurism one of the most frequent complications in midwifery instead of being, as it is, little more than a pathological curiosity.

REFERENCES.

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2. Maclaren, Archibald. "Aneurism of Internal Iliac Artery." *Annals of Surgery*, ii, 269, 1913.