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OVARIAN TUMOURS AND OVARIOTOMY DURING AND AFTER PREGNANCY.

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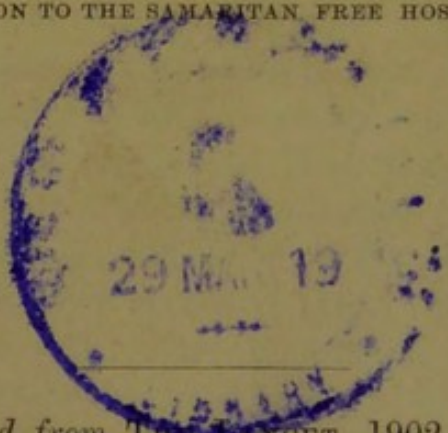

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OVARIAN TUMOURS AND OVARIOTOMY DURING AND AFTER PREGNANCY.

In the Cavendish Lecture for 1897 [1] Sir John Williams showed that ovariotomy had proved as successful during pregnancy as apart from pregnancy, whilst the mortality associated with obstetric operations undertaken in cases of labour complicated by ovarian tumour was appalling. Mr. J. Bland-Sutton [2] gives in the first of his three lectures delivered before the Medical Graduates' College and Polyclinic a graphic description of two cases of labour. In the first the fœtus was extracted through an incision in the uterus, and was saved; then the tumour, which lay in the pelvis, was removed, and the mother recovered. In the second the tumour was pushed up, the child was delivered with forceps and was lost, whilst on the third day ovariotomy was performed after septic peritonitis had set in, and the patient died. Since those authorities wrote the above observations Dr. Orgler, of Breslau, has prepared a most exhaustive treatise on ovarian disease and ovariotomy in pregnancy.[3] After an abstract of previous clinical and statistical records he places before us a valuable table of 148 cases of ovariotomy during pregnancy reported between 1889 and the beginning of 1901, excluding all reports

[1] 'The Lancet,' July 17th, 1897, p. 129.

[2] "The Surgery of Pregnancy and Labour complicated with Tumours," Lecture 1, 'The Lancet,' February 9th, 1901, p. 382.

[3] "Zur Prognose und Indication der Ovariotomie während der Schwangerschaft," 'Archiv für Gynäkologie,' vol. lxv, 1901, p. 126.

which are valueless or even likely to mislead on account of important omissions. The conclusions deserve brief notice. Only six mothers were lost (a mortality of 4 per cent.), but in only four was the fatal result clearly caused by the operation, as in one case death was due to criminal abortion during convalescence from the ovariotomy, and in one the patient survived the operation three months, and the cause of death was not reported. The four remaining deaths make the mortality only 2·7 per cent. Subtracting the two mothers lost not directly through the operation, pregnancy was interrupted in 36 out of 146 cases (24·7 per cent.), "interruption" including not only abortion and premature labours, but also the four maternal deaths from operation. Thus in 110 cases pregnancy was uninterrupted. Forty-nine were specified as having been delivered at term, and some of the remaining cases were lost sight of before delivery. Amongst the thirty-six interrupted pregnancies, besides the four deaths, was one case of criminal abortion not fatal to the mother, two of the induction of premature labour by obstetricians, and one of vesicular mole pregnancy. Thus thirty-two cases remain where untimely conclusion of the pregnancy was due purely to the operation (22·5 per cent.). In thirty cases the ovariotomy was double; in twenty-four of this group pregnancy was not interrupted, and the remaining six included one case where the mother died. In all the 148 cases, excepting seven, the ovariotomy was abdominal. The minority was made up of vaginal operations: in two of them the pregnancy was interrupted, in two it was specified as proceeding to term, and in the remaining three it was simply recorded as continuing after convalescence. Dr. Orgler shows that when ovariotomy is postponed till after labour abortion occurs in 17 per cent. of well-observed cases. Since the appearance of this valuable monograph Dr. J. B. Hellier, of Leeds,[1] has published three cases, in none of which was the pregnancy interrupted by the operation, but in one done at the sixth month a stillborn child was born at the eighth month. In

[1] 'The Lancet,' December 21st, 1901, p. 1727.

October, 1901, Dr. Herbert R. Spencer [1] read before the Obstetrical Society of London notes of a fatal case of rupture of a large ovarian cyst in the first week of the puerperium. The patient had refused operation, and she died just after arriving at the hospital.[2] Lowenberg [3] reports a case of acute torsion of the pedicle in the third month; double ovariotomy was performed. On the thirty-fourth day, the date at which the report ends, there was no sign of abortion. M. Puech [4] reports a case which shows, what we must always bear in mind, the perils of labour when ovarian tumour is present. The patient, a primipara aged twenty-six years, was confined at term. The labour was lingering, and a soft, non-fluctuating tumour filled the greater part of the pelvis. The cervix lay high up against the pubes, and a foot presented and was drawn down. At the end of two hours labour had made no progress. The tumour was tapped for diagnosis, Cæsarean section being proposed. Over 600 grammes of a puriform fluid came away. Then delivery was effected, but the child, a very big male, died during extraction. Three months later Puech successfully operated, removing a large dermoid of the right ovary full of hair and grease. Dr. J. M. Munro Kerr [5] reduced a dermoid cyst obstructing labour by pushing it out of the pelvis, the patient being under chloroform. The attempt did not succeed until the head was disengaged; then the forceps was applied and the child was extracted. Five weeks later the tumour was successfully removed.

M. Puech and Dr. Munro Kerr can justify their procedures

[1] 'Transactions of the Obstetrical Society of London,' vol. xliii, p. 224.

[2] An instance of rupture during pregnancy is reported by Fothergill in the 'Transactions of the Edinburgh Obstetrical Society,' vol. xxvi, 1901, p. 114—"A Case of Pregnancy with Ovarian Cyst." Collapse and abortion followed the rupture, then septic infection and removal of placental tissue. A month later an operation was proceeded with during a sharp attack of peritonitis. Recovery ensued.

[3] 'Centralblatt für Gynäkologie,' No. 51, 1901, p. 1389.

[4] "Kyste Dermoïde de l'Ovaire compliquant l'Accouchement," 'Gazette des Hôpitaux,' December 17th, 1901.

[5] "Dermoid Cyst of Ovary obstructing Labour," 'Transactions of the Obstetrical Society of London,' vol. xliii, 1901, p. 145.

by the results which followed. None the less do both cases teach that it is always best, if possible, to remove a dermoid cyst during pregnancy, and many experienced operators question if it be not best to operate during labour when any kind of ovarian tumour causes obstruction. Otherwise it may be damaged by pushing and handling, and may become infected in the puerperium, an accident not rare even when the tumour has not caused obstruction. Thus, whilst Mr. Bland-Sutton was forced to operate, in his second case related above, on the third day of the puerperium, when infection had set in, and lost the case, I likewise had to operate in a case, which will presently be related, two months after delivery and puerperal infection of the cyst, which had not obstructed labour. This case, too, did not end in recovery.

The most recently published instance of ovarian tumour associated with gestation is among the most remarkable within the whole literature of the subject. Dr. F. W. N. Haultain [1] attended a woman in her third labour, which, when he first saw her, had lasted for twenty-four hours. As a soft mass had been felt bulging through the posterior vaginal wall an attempt at delivery by means of forceps had been made, with the result that the mass protruded through the vulva. The mass, which proved to be an ovarian dermoid cyst, became detached as Dr. Haultain explored it. After delivery was effected by the forceps the rent in the vagina was packed with gauze. The patient recovered.

Thus the most recent records only confirm the prevalent teaching that an ovarian tumour detected during pregnancy should be removed, that its removal may be the best course during labour, and that a tumour of this kind is liable to undergo in the puerperium prejudicial changes which indefinitely increase the dangers of operation. This latter teaching is strongly supported by my own operative experience, which I will now relate.

[1] "Expulsion of a Dermoid Ovarian Cyst during Labour," 'Journal of Obstetrics and Gynæcology of the British Empire,' February, 1902, p. 243.

Ovariotomy in Pregnancy.

I will begin with two cases of ovariotomy during pregnancy in my own practice. In the first all complications and dangers were anticipated, none existing at the date of the operation. In the second torsion of the pedicle occurred, and the tumour lay in a position prejudicial to labour. In each case the complication had been diagnosed by the patient's private medical adviser, who foresaw danger.

Case 1.—A patient aged 29 years, who was under the care of Dr. S. T. Plumbe, of Maidenhead, was sent to me in June, 1897, on account of the discovery of a tumour, pregnancy being evident. She had been married for eight years and had borne three children—the youngest was two and a half years old,—and there had been no abortions. The catamenia had been absent for fifteen weeks. In November, 1896, the patient first noticed an abdominal swelling with much dull pain. Dr. Plumbe had recently examined her, and had detected a tumour and a pregnant uterus distinct from each other; the former had grown larger since the cessation of the catamenia. I found a freely moveable spherical cyst, as large as a big orange, rising above the right groin. On its inner side was the gravid uterus, the fundus rising three inches above the pubes. The cyst could be perfectly separated from the uterus and pushed to the right or upwards. No part of the tumour came down into the pelvis. There could be no doubt about the diagnosis. I had seen some bad cases where pregnancy had recently occurred, cases which will presently be referred to. It was clear that an ovariotomy would be simple if performed at once; if delayed, on the other hand, several painful or dangerous complications were highly probable. The cyst, for example, might easily have fallen behind the uterus, as happened early in the history of the next case. Then there would have been a dermoid cyst obstructing labour, a complication entailing several obvious dangers. The patient

was very strong and healthy. The pulse was 84, and the temperature was 98° F. I therefore operated on June 17th, 1897. I exposed a dermoid cyst. On account of the nature of the tumour I enlarged the incision and extracted it entire. It is very inadvisable to sponge, mop, or flush the peritoneum in a pregnant subject, yet such procedures are absolutely necessary if dermoid matter fouls that serous cavity, and such an accident is always possible however carefully the trocar is manipulated. The pedicle was three inches long; anatomically it was normal and untwisted. I ligatured the ovarian vessels and then transfixed and tied the entire pedicle, which was not broad, and I took care not to tie the ligature close to the uterine cornu. The left ovary and tube were healthy. The lower border of the great omentum had been pushed up by the tumour, and was adherent to the parietes; I removed it in part after careful ligature. I closed the parietes with interrupted silkworm-gut sutures, after bringing the recti and their sheaths together with continuous catgut. The tumour contained dark brown hair, grease, and a flat piece of bone.

The after history of the case was that the patient made a good recovery, and was delivered spontaneously on December 11th, 1897, of a female child. She has borne one more since that date. I will presently speak of a remarkably similar case where I had not the opportunity of operating till after the puerperium.

Case 2.—The patient, a married woman aged 25 years, was sent to me by Dr. R. Purdie, of Haverstock Hill, on October 1st, 1901, he having diagnosed pregnancy complicated by a tumour. The patient, who was married in December, 1899, was delivered of a child at term in November, 1900. Dr. Purdie used the forceps, not on account of any obstruction, but because he found the patient somewhat exhausted, whilst the pains were ineffectual, and the head was arrested in the perineum. There was no difficulty in delivering the child. Recovery was

rapid; the child was suckled for seven months, and the patient menstruated twice (in February and in April, 1901) during lactation. The periods did nót reappear after the first week in April, 1901. Early in August the patient had a sharp attack of abdominal pain, which laid her up for two or three days. About a week later she had another attack, which laid her up for a week. Since then she had no more pain, permanent or temporary. Dr. Purdie had already discovered a pelvic tumour by accident when examining her at the beginning of this pregnancy. I examined her on October 1st, when she was admitted into the Samaritan Free Hospital. Of the pregnancy there could be no doubt. The soft gravid uterus rose to above the umbilicus. The cervix was soft, and lay high in the pelvis. In Douglas's pouch and the left fornix lay a firm mass, quite immoveable. On bimanual palpation its upper limits could be indistinctly defined behind the left border of the uterus in the left iliac fossa. The patient was put under an anæsthetic, and then the presence of some kind of tumour could be more clearly defined. It was separate from the uterus, and it pushed the cervix upwards and forwards—in other words, it obstructed the inlet. The tumour seemed to be absolutely fixed, and was very firm. Owing to its position, palpation from above and below simultaneously was not easy, so that it remained uncertain whether it was solid or cystic. Attempts were made to push up the tumour gently; it was fortunate that not much force was used. Dr. C. Hubert Roberts, Dr. F. J. McCann, Dr. C. H. J. Lockyer, and Dr. R. H. Bell examined her at a consultation. An exploratory operation was considered preferable to expectant treatment.

I operated on October 15th, Mr. A. C. Butler-Smythe assisting. I exposed the pregnant uterus, passing my hand into the left iliac fossa. I detected a tumour, which I partly set free from soft vascular adhesions. I object to working too much in the dark in any case, and in this instance I wished to avoid bursting the cyst (it felt clearly cystic), as wiping up fluids and flushing the peritoneum

greatly add to the chances of premature labour. I therefore enlarged the incision, and drew the gravid uterus forwards out of the abdominal cavity. Then I saw that the left appendages were perfectly normal. The tumour was the right ovary dilated into a small pyriform cyst and displaced to the left. Its pedicle, twisted two turns, was stretched tightly across the back of the uterus. At the twisted part the pedicle was no thicker than a No. 3 catheter, and on the distal side it was full of organised clot. I transfixed, tied, and divided it. The adhesions in Douglas's pouch and at the back of the uterus bled a little. The bleeding was checked by pressing sponges down into the pelvis, from which a few clots were removed. Then the uterus was reduced and the abdominal wound was closed.

The after history of the case is as follows. The patient, a healthy young woman free from neuroses, showed no sign of shock, and flatus passed within twenty-four hours. On the fourth day the bowels were moved freely by a dose (one drachm) of sulphate of magnesia followed by an enema. As is usual when the pedicle has been already twisted, there was no local pain, since the tension following the ligature of a broad normal pedicle did not exist. Not the least sign of uterine contraction or of bloody or any other discharge was observed. The patient left the hospital quite strong on November 6th. Until her confinement she enjoyed good health, and could attend to her ordinary housework without inconvenience. On January 8th, 1902, she was delivered spontaneously of a living and well-developed female child. Thus the operation did not hasten labour, which, calculating from the first week in April, took place precisely at term. Dr. Purdie informed me that the head was on the perineum when he arrived, so that he had no opportunity for an examination. Labour was easy, and the abdominal wound looked perfectly well, and showed no sign of stretching.

This case offers two special points for comment. In the first place, attempts to push up an ovarian tumour are

objectionable, and I was not in favour of such a practice even in this instance. Tapping is equally inadvisable. Semon, of Dantzig,[1] detected a tumour in the pelvis in the third month of pregnancy, and in the sixth month he operated. The tumour was a prolapsed kidney, which it was thought advisable to remove. Pushing or tapping might have caused grave results. Mr. Bland-Sutton[2] insists, in his lectures already alluded to, that pushing an ovarian tumour out of the pelvis during labour is "decidedly in opposition to all the canons of surgery." In the second place, I wish to insist on the necessity of drawing the uterus well out of the abdominal incision when there is the least doubt of what is behind it. There is little chance of causing abortion if the uterus be well protected with pads anteriorly; but if the uterus be not drawn out the operator will be forced to keep moving his fingers behind it for some time and to drag unnecessarily on the appendages—manœuvres well calculated to set up uterine contraction.

Ovariotomy after Pregnancy.

The result of operating in these cases was quite satisfactory. I find fifteen cases of ovariotomy performed by myself where pregnancy had existed recently and the tumour was known to be present before labour. I exclude about three times as many cases where pregnancy had occurred within three years of the operation, but where, when no complications were present, it was probable that the ovarian tumour had developed after the last labour, and where, when complications were present, they might have developed later than the last puerperium even if the tumour had actually existed during the last pregnancy. Out of the fifteen no complications (twisted pedicle, adhesions, etc.) were found at the operation in three. But in

[1] 'Monatsschrift für Geburtshülfe und Gynäkologie,' October, 1901, p. 589.

[2] 'The Lancet,' February 9th, 1901, p. 382.

one of these abortion at the third month had occurred six months before I operated, and the cyst was then very large. Another case aborted in the middle of the fourth month from twisted pedicle. Thus there were two abortions in fifteen cases. In two cases the patients had been twice pregnant since the diagnosis of the tumour. In eight cases, including the patients who had been pregnant twice, delivery was normal and at term, in one lingering at term, and in two instrumental at term. In two cases delivery was premature; in one of these labour, which took place at the seventh month, was very lingering, and severe peritonitis followed. I operated within three months, and found the pedicle twisted, and strong visceral and parietal adhesions. In one of the two cases in which the patients were known to have been pregnant twice the pedicle seems to have twisted slowly during the second puerperium with little or no pain. There were strong adhesions. The second case looked worse in this respect than it proved to be when I operated six months after the last confinement. The patient in this case was twenty-five years old, and had long refused operation. The tumour was detected on the left of the uterus by Dr. W. I. Watson, of Wellingborough, during the first pregnancy, which ended normally two years and one month before I removed it. Strange to say, though the tumour retained its position on the left side of the abdomen through both pregnancies and could not be pushed to the opposite side, I found that it was perfectly free from adhesions, and bore a moderately long pedicle. It contained four pints of clear ovarian fluid, and only weighed six and a half ounces. The history led me to suspect that it must be held to the left by adhesions. In no less than eleven out of the fifteen cases I found the pedicle distinctly twisted, and in six of the eleven the tumour was a dermoid. In one the pedicle had yielded, and the tumour was nourished by omentum. The tumour had been diagnosed one month before her last delivery, which occurred at term eleven months before I operated. The patient, who was twenty-nine years of age,

and had borne seven children, suffered little from her tumour, which held fourteen pints of dark brown ovarian fluid. In five of these eleven cases there was no further complication besides the twisting of the pedicle; the case of yielding of the pedicle is included in the five, and in the other six cases the patients suffered the usual painful symptoms of axial rotation. In seven out of the fifteen cases I found strong adhesions; in six of the seven the pedicle was twisted, so these six also come under the last heading. In one of the seven cases the pedicle was not twisted; the operation was performed three months after delivery at term. There was a strong parietal adhesion, hard to reach and to separate close to the liver, and the cyst wall was dull through plugging of its vessels, but the contents were clear and sweet. In six cases the separation of adhesions gave great trouble, especially in the case of one patient who had been pregnant twice during the existence of the tumour, mentioned above as an example of painless twisting of the pedicle, yet the adhesions showed that extensive peritonitis had occurred. In one of the six cases the operation was followed by fatal results, making one death in fifteen cases. A live child had been delivered at term with the forceps; the tumour was not apparently impacted in the pelvis, but it seems to have been roughly handled. As in Mr. Bland-Sutton's case, related above, it became infected during the puerperium two months before operation. Under the care of Dr. H. J. Ilott, of Bromley, the patient improved a little, but the temperature remained high, and she was very sickly when I operated. I found universal adhesions, involving the parietes, the omentum, the ascending colon, the cæcum, the vermiform appendix, the bladder, the opposite tube and ovary, and especially several coils of small intestine, which were deeply injected. The pedicle was strongly twisted, and the cystic fluid was very fœtid. The peritoneal cavity was flushed with saline fluid after careful repair of the damaged serous coat of one of the separated coils of small intestine. The patient died on the sixth day after the

onset of symptoms from bacillus-coli infection—sickness, free passage of fœtid flatus, diarrhœa,[1] and tympanites, a complication frequent after separation of intestinal adhesions in ovariotomy where malignant or strongly adherent dermoid tumours are removed. This case was an eminently instructive example of puerperal infection of an ovarian cyst. Any pregnant woman with a cyst has this danger in prospect—a fact never to be overlooked in dealing with a pregnancy thus complicated. Another of the six cases where adhesions were dense is instructive on account of its strong resemblance to Case 1, where I operated during pregnancy. The patient was thirty years of age and had borne two children, and she was very strong and healthy. When I operated she had been delivered at term six months previously, and Mr. Chune Fletcher informed me that she had suffered from retroversion of the gravid uterus during the last pregnancy. Acute abdominal pain set in shortly after convalescence from the puerperium. The tumour was a dermoid, closely packed with greasy hair, and dull red fluid mixed with half-liquid fat came away on tapping one loculus. There were very intimate adhesions to the parietal peritoneum over the bladder and to the peritoneum of the right iliac fossa. The pedicle was tightly twisted for two turns, and therefore it was easily secured and divided; then I found that the lowest part of the tumour was adherent to the front of the uterus and to some small intestine. This adhesion had to be transfixed and tied as though it were a pedicle. The peritoneum was thoroughly flushed with saline solution, some of which was left in when the abdominal wound was closed. The patient made a good recovery. Had I waited to operate on Case 1 till after labour similar complications might very probably have been encountered. Let it be noted that in both the tumour was a dermoid full of grease; that twisting of the pedicle is exceedingly frequent in the puerperium, as the above records show; that

[1] See Vautrin, "L'Infection Colibacillaire en Chirurgie abdominale," 'Revue de Gynécologie et de Chirurgie abdominale,' November and December, 1901, vol. v, p. 935.

dermoids are specially liable to this accident; that bad adhesions often follow torsion; and that separation of the wall of an adherent dermoid always involves distinct risk. Thus in fifteen cases with a very clear history of recent pregnancy the proportion of complications, obstetrical and operative, was very high. This experience supports Dr. Orgler's conclusion that postponing the operation till after delivery exposes the mother to considerable danger during pregnancy, labour, and above all the puerperium.

Pelvic retro-peritoneal dermoid filling pelvis; 4th mo of pregnancy. Lebkowski Zeitschr. f. Geb. u. Gyn. Sept. '06 p 364. (See abstract of this case on back fly-leaf of "Ovarian Dermoid Abdominal Tumours" Vol I of these Statistical & Clin. Transactions.

Hedrich. "Zur Ovarialdermoid in der Schwangerschaft, während der Geburt und im Wochenbette" Zeitschr. f. Geb. u. Gyn. Aug 1901 (Vol 25. p 650)

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