Case of fibro-sarcoma or 'desmoid growth' of the abdominal wall / by Alban Doran.

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CASE OF FIBRO-SARCOMA OR "DESMOID GROWTH" OF THE ABDOMINAL WALL.

By Alban Doran, F.R.C.S.

F. C. T——, aged 21, a healthy, corpulent young woman, of short stature, came under my care at the Samaritan Free Hospital in the summer of 1890. She complained of a tumour in the left groin, which gave her discomfort and alarm.

On July 6th I examined the patient. A very firm, solid tumour projected immediately above Poupart's ligament. It was oval, measuring 5½ inches in its long diameter, by 3 inches vertically; its long diameter being parallel to the crural arch. Its internal and blunter extremity lay close above the spine of the pubes, no part of the tumour passing to the right of the middle line. The outer and more pointed extremity came close to the anterior superior spine of the ilium. It was movable and not tender, save on firm pressure. The uterus was freely movable, and its cavity measured 2½ inches. No connection could be traced between any part of the pelvis and the tumour.

The patient had been married four years, and had borne two children. She also miscarried in November, 1888. Her youngest child was four months old; she was suckling it, and the catamenia had not returned. Two years and a half before I examined her she first noticed the swelling. It was about the size of a pigeon's egg, and occupied the region where now lay the outer extremity of the tumour. She noticed that it gradually extended downwards and inwards as it grew bigger. This account of its seat of origin did not accord with its attachments as detected at the operation. Moreover, she stated that when it first appeared she went to a large hospital, and a dresser said, "It was a rupture," and prescribed a truss, which was accordingly applied. To take a tumour

near the spine of the pubes for a hernia is an error both natural and probable. On the other hand, it is not very likely that even a student would diagnose a small growth near the iliac spine as a hernia. Patients, however, are often very inaccurate in localising origins of tumours; this is particularly the case in ovarian cystic disease, which is often described as first appearing in the groin, even when the surgeon himself has examined the tumour in its earlier stages, and noted that it first rose into the hypogastrium. The truss was worn for eighteen months, then a chemist examined the patient, and said that there was a tumour. She became pregnant, and was advised to go to the Samaritan Hospital after the birth of her child. The child had just been weaned when she was admitted under my care. The patient had no evidence of any visceral disease.

On July 12th, 1890, I operated. I divided the integuments in the long axis of the tumour; the incision, therefore, ran almost parallel to Poupart's ligament. The aponeurosis of the external oblique muscle was thus exposed. On dividing it, in the line of the skin wound, the tumour was laid bare. The outermost part was readily raised up. The muscular tissue of the internal oblique and the transversalis fascia ran into the inner part of the tumour and were incorporated with its posterior aspect. On cutting the tumour away from its attachments, the peritoneum was exposed, but not opened. Two small vessels on its surface were wounded and ligatured.

The aponeurosis of the external oblique adhered very firmly to the blunt inner extremity of the tumour, but I succeeded in dissecting it back. The superficial epigastric artery was tied and divided. Then I found that this end of the tumour was incorporated with the conjoined tendon and the sheath of the rectus, extending to the anterior part of that muscle. After cutting away the tumour, I trimmed away the outer border of the sheath of the rectus and part of the conjoined tendon, which contained hard, circumscribed deposit.

The wound was united by silkworm-gut sutures, passed through the skin, subcutaneous tissue, aponeurosis of the external oblique, substance of the internal oblique, and transversalis fascia on both sides of the wound. The skin near the outer extremity was united by a horsehair suture, and a drainage tube was passed into the inner angle. The patient made a good recovery. The wound,

dressed with iodoform gauze, did not suppurate; the tube was withdrawn by degrees. On the third day the catamenia appeared, for the first time since delivery. On the fourth I removed three of the deep sutures; on the fifth I cut away the remainder. An abdominal belt was supplied, and the patient was discharged in good health on August 1st.

The period ceased again after October 22nd. I saw the patient on January 23rd, 1891; she was pregnant, and the uterus rose to about $2\frac{1}{2}$ inches above the pubes. The cicatrix of the operation was quite healthy, and there was no sign of any recurrence of the growth at the side of the attachment of the conjoined tendon or elsewhere; nor was there any hernial protrusion.

The tumour weighed $5\frac{1}{4}$ ounces, and measured, after removal, 4 inches in length, $2\frac{1}{2}$ from above downwards, and $1\frac{1}{2}$ in thickness antero-posteriorly. On section, its cut surface appeared pale yellow and very fibrous, although not markedly tough; it became convex. Mr. Targett kindly made some microscopical preparations of the tumour for me, at the laboratory of the Royal College of Surgeons. He reported: "The tumour is what the old writers called 'fibro-cellular.' It is composed of young, rather loose fibrous tissue, in parts indistinguishable from sarcoma, in others denser and much less cellular. I suppose that it may be considered the first stage of the 'recurrent fibroid,' and indicate a guarded prognosis." The tumour and the sections are subjected, this evening, to the inspection of the Society.

This new growth was an example of Sänger's "desmoid tumour of the abdominal wall." Much has been written on the subject by Guerrier,* Sänger,† and Livius Fürst.‡ According to Sänger, the tumour is not very common; considering how much operating is done in the region of the abdomen, we do not find that the most industrious observers succeed in collecting cases by the hundred. It is certain that, compared to uterine myomata and ovarian cystoma, the desmoid tumour of the abdominal wall is relatively rare. Fürst (*loc. cit.*) declares that all cases should be recorded;

* 'Contribution à l'étude des fibromes du tronc en rapport avec la paroi abdominale antérieure,' Thèse de Paris, 1883.

† "Ueber desmoide Geschwülste der Bauchwand und deren Operation mit Resection des Peritoneum parietale," 'Archiv f. Gynäk.,' vol. xxiv, 1884.

‡ "Zur Casuistik der Bauchdecken Tumoren," 'Zeitschrift f. Geburtshülfe und Gynäk.,' vol. xiv, 1888.

for much uncertainty still prevails in respect to their nature. He describes a single observation, and, acting on his principle, I follow his example.

One fact in respect to desmoid tumours of the abdominal wall seems clear. They are far more frequent in women than in men; so that the German authorities whom I have already named speak of them as being practically within the domain of gynæcology. In Grätzer's collection of 38 cases, only 5 occurred in men. Guerrier notes but 2 instances of the tumour in male patients, out of a series of 44, which include 27 not in Grätzer's statistics. Eight cases noted by Sänger were all in women. The same can be said of Fürst's case and of my own. Turning to American authors, out of 17 cases under treatment in the United States, as collected by Dr. Edward Ill,* of Newark, New Jersey, and Dr. Charles Reed, of Cincinnati,† only 2 occurred in men. The attention, however, of surgeons who exclusively operate upon women is keenly directed to the abdomen, and certain circumstances encourage them to record long series of abdominal operations. Hence they are not likely to overlook desmoid tumours. On the other hand, when the same kind of tumour occurs in men, the patients usually come under the care of general hospital surgeons. For many reasons, the cases may then escape record. Hence, perhaps, the disease in question is not so rare in men as the above statistics might lead us to suppose. The surgical registrars of the great metropolitan hospitals are in a position to throw more light on this interesting subject. The position of the tumour bears, apparently, no relation to the sex; in my case it lay low in the left inguinal region, but in Fürst's it was found, when still of small dimensions, close to the right hypochondrium.

Professor Sänger's monograph (*loc. cit.*) is so exhaustive that many more cases must be collected before it can be rivalled, even by an equally capable observer. Some of his conclusions deserve mention and consideration.

It would appear that the desmoid tumour may occur in any of the layers which make up the abdominal wall, although it has

* "Desmoid (Fibroid) Tumour of the Abdominal Walls," 'Transactions of American Association of Obstetricians and Gynæcologists,' vol. i, 1888.

† "Fibroid Tumours of the Abdominal Wall," *ibid.*, vol. i. Fink ('Prager medicin. Wochenschrift,' 1890, Nos. 37, 38) states that in six cases under Dr. Gussenbauer's care all but one occurred in women.

never been proved to arise from the parietal peritoneum; and, again, Herzog reasonably suspects that solid tumours in the muscular substance of the abdominal walls are probably sarcomata developed from hæmatomata. This theory, however, agrees with Fürst's view, that desmoid tumours originate in local injuries, as in his own case. These tumours may also arise in the fascia lumborum, and even from the bony and cartilaginous boundaries of the abdomen, the perichondrium and periosteum of the ribs, the costal cartilages, and the pelvic bones. When in the last-named situation they constitute the "fibrous tumours of the iliac crest," of Nelaton, which force their way between the layers of the abdominal wall.

As to the relative frequency of the different seats of origin, statistics do not always furnish us with satisfactory evidence. In 27 cases where the operator took care to note this point, the posterior sheath of the rectus appears to have been the seat of origin of the tumour in 8 cases, including Fürst's, which was published after the appearance of Sänger's paper. In 5, the origin is described as "linea alba, or conjoined aponeurosis"; in 5 as fascia transversalis, in 3 as aponeurosis of the external oblique; in 2 as tendon of origin of rectus. In 2, including my own case, the tumour apparently rose from the conjoined tendon of the internal oblique and transversalis. One case is noted by Sänger as arising from the anterior sheath of the rectus, and 1 as from the "linea alba and sheath of the rectus," though why this one case is separated from the "linea alba or conjoined aponeurosis" class is not clear, unless Sänger considered that it was dangerous to rely on more than the bare words of the reporter of each case.

I have little, if any doubt, that the tumour in my case arose from the conjoined tendon. It was more intimately associated with that structure than with any neighbouring part. That the inner extremity of the tumour grew into the sheath of the rectus and lay in front of that muscle was to be expected, when we remember the relations of the oblique and transversalis to the rectus in the lower part of the abdomen. I am aware that Solger*

* 'Morphologisches Jahrbuch,' x, p. 102, 1885, and 'London Medical Record,' vol. xiii, 1885, p. 487. Solger insists that the aponeuroses of the internal oblique and transversalis continue behind the rectus to their lowest level, but are very thin there. Above the linea semicircularis they are very stout, for reasons associated with the mechanism of respiration. The abrupt-

does not believe in the accepted opinion that the half aponeurosis of the internal oblique, together with the aponeurosis of the transversalis, passes in front of the rectus at a point marked by the linea semicircularis of Douglas. Anyhow, the tumour in my case, so intimately blended with the conjoined tendon, passed in front of the rectus.

In over 60 recorded cases the desmoid tumour of the abdominal wall was pathologically a "pure, firm fibroma." Sänger boldly makes this statement. It is remarkable that, out of the 27 cases where competent observers described the tumour as "fibro-sarcoma," no less than 2 occurred in men, so little subject to this kind of growth. I agree with Mr. Targett that my own case does not appear to be a pure fibroma. There is more "young" tissue than in Fürst's case (*loc. cit.*, Plate VII). Nevertheless, the appearances which may be noted in the sections in my possession are not positive indications of malignancy.

The cause of desmoid tumours of the abdominal wall is, no doubt, an interesting subject, but it involves pathological subtleties too profound for this memoir. Very clear evidence of injury has been brought forward, especially in Fürst's case, where the patient was violently pushed against the corner of a table, which caught her below the right hypochondrium, where the tumour soon afterwards developed. In my case there was no history of any kind of injury. I have already referred to Herzog's hæmatoma doctrine. There is no sufficient evidence to prove that these tumours are necessarily developed from some pathological products of injury, clear though Fürst's case may be.

There can be no two opinions about the proper kind of treatment. A desmoid tumour of the abdominal wall should be removed as early as possible. The question remains, When is it too late to attempt its extirpation? This question mainly depends upon one point, namely, how much of the parietal peritoneum can be safely removed. Grant this, and there remains no difficulty about closing the abdominal walls, for a tumour of this class does not tend to adhere to the integument, and the deeper it lies the more chance remains that some of the superficial layers of the parietes, besides the skin, may be saved.

Sänger and other foreign operators have removed enormous

ness with which the aponeuroses became thin causes the appearance to which the term "linea semicircularis" is applied.

desmoid tumours of the abdominal walls, together with the subjacent peritoneum. In one case (Sänger, *loc. cit.*), after dissecting up a flap of integument, the lower part of the tumour was also raised, by an incision below it into the peritoneum. That membrane being found to be inseparable, an aneurysm-needle, armed with a double silk ligature, was passed through the peritoneum and aponeurosis which were to be divided, and brought out again through the same tissues, about an inch further on. A similar transfixion was made an inch external to the former. The process was continued until two complete chains of ligatures were formed, for the ends of the ligatures were tied after transfixion, as in an ovarian pedicle. After each inner and outer transfixion and ligature of the threads, the peritoneum between the inner and outer threads was divided. Thus, when the chains of ligature were complete, the tumour and its peritoneum and aponeurosis were cut away, and there was no loss of blood, either from the tumour during removal, or from the edges of the huge wound in the abdominal wall. By a complicated system of sutures, the integumental flap, including the more superficial layers of the parietes, was fastened down to the edges of the great wound, which were already approximated by silver sutures made fast to plates. Sutures were passed across the flap so as to unite its deep surfaces as much as possible. Thus a stout pad was formed, resisting hernia, instead of a mere bag of skin, into which three-quarters of the abdominal viscera would ultimately have prolapsed.* Several drainage tubes were passed across and along the wound. The patient, in this case, did well.

In different cases of large tumours of the abdominal wound, the procedure must vary. The double chain of ligatures, to anticipate hæmorrhage, is a good idea, but plenty of pressure forceps, such as most British operators possess, will allow the surgeon to dispense with the inner chain. The formation of a good stout pad of integument is an excellent principle.

The apposition of a raw flap of integument to the viscera, in place of the parietal peritoneum, appears perfectly justifiable and free from any danger of adhesions, as long as the surgeon takes antiseptic or "aseptic" precautions. Dr. Kelterborn, of Dorpat, has recently shown that the stripping off of peritoneum is not

* These complicated manipulations are demonstrated in the fine drawings illustrating Dr. Edward Ill's monograph (*loc. cit.*).

sufficient for the development of an adhesion,* and that endothelium will develop over a considerable area of tissue, whence the serous membrane has been removed; although perfect repair must be impossible in an extreme case, like Sänger's.

The peritoneum should always, however, be saved whenever possible. In my own case it was preserved. I tied the wounded vessels on the peritoneum with caution, as I feared damage to the serous membrane, which might have caused sloughing. The intestines bulged freely under the exposed peritoneum, and had not Mr. Stormont Murray kept the patient very thoroughly under chloroform, I might have had some difficulty in applying the sutures without damage to the viscera. The sutures were passed through all the layers of the parietes superficial to the peritoneum; the process proved harder than in ovariotomy, when, the serous membrane being divided, the passage of the needle can be more thoroughly observed. The depth of the sutures ensured a strong cicatrix.

Sir Hugh Beevor asked Mr. Alban Doran whether he did not think the section of the tumour under the microscope showed no evidence of sarcoma, but consisted solely of fibrous tissue and very young connective tissue cells, in fact that the tumour was of pure fibrous tissue.

Dr. Cullingworth enquired whether Mr. Doran could furnish any absolute test by which fibro-sarcomata can be distinguished histologically from fibro-myomata, and even from certain pure fibromata in which there is an abundance of young tissue. Or was it still the fact that the classification must rest chiefly upon clinical evidence? Would Mr. Doran kindly say how long it was after the operation when the patient was last seen and found free from recurrence, for this would probably settle the question of diagnosis, in this particular case, so far as sarcoma was concerned.

Mr. Alban Doran said, in reply to Mr. Sutton, that the term "desmoid" had been revived by Sänger to signify that kind of abdominal tumour which was exhibited this evening. The term was clinical, not pathological. Mr. Doran, when he first saw the case, believed that the tumour had probably developed in the left round ligament. The relations during operation, however, showed that it had no connexion with that ligament, which ends in the connective tissue of the pubes, and not in the conjoined tendon whence the tumour arose. In reply to Sir Hugh Beevor, he thought that the tumour was essentially fibrous tissue with very young elements, and hardly malignant. The old terms "desmoid" and "fibro-cellular" were freely used to signify soft fibromata, œdematous fibromata, myxomata, and myomata. In reply to

* "Versuche über die Entstehungsbedingungen peritonealer Adhäsionen nach Laparatomien," 'Centralblatt f. Gynäk.,' No. 51, 1890. A summary of this paper will be found in the 'British Med. Journal,' vol. i, 1891, p. 294.

Dr. Cullingworth, Mr. Doran stated that the tumour was nearer to the fibro-sarcoma than the fibro-myoma type. He had seen the patient in March and there were then no signs of recurrence. He was interested in Mr. Haslam's testimony as to the rarity of desmoid tumours of the abdominal wall. Sir Spencer Wells had removed a true fibro-myoma of the round ligament, now preserved in the museum of the College of Surgeons (Path. Series, 4644). Mr. Doran repeated his challenge to the surgical registrars of general hospitals, and hoped that, at least, some industrious pathologist would communicate with the registrars with a view of ascertaining if these tumours were as rare in male subjects as was usually supposed.

See "Fibro-myome de la Paroi abdominale récidivé" La Gynécologie, 1re Année 1896. p. 230. Several references. I should have quoted Labbé et Rémy "Traité des fibromes de la paroi abdominale".

Peterson of Ann Arbor. Large Recurrent Fibrosarcoma of the Abd. Wall 953. Amer. Journ. Obstet. Vol XLV 421 (March 1902) (Observed 1874, removed 1894, recurrence, removed Nov 1901 then found to be a spindle-celled sarcoma)

Schauta. Zentralbl. f. Gyn. No 12, 1903 p. 372. Hyperaesthesia & delusions. Nerve filaments found in the tumour which was in apon. of int. oblique

Bruno Zacharias Beitrag zur Kenntnis der typischen Bauchdeckenfibrome Dissert. Breslau, 1901 & Zentralbl. f. Gyn. No 41. 1903

Schauta. Desmoid der Bauchdecken (Paper read before Vienna Obst. & Gyn. Soc. Zentralbl. f. Gynäk. No 9. 1904. p. 298

HARRISON AND SONS, St. Martin's Lane, Printers in Ordinary to Her Majesty.

Stein "Kasuistischer Beitrag zur Lehre von den Fibromyomen der Bauchdecken" Monatschr. f. Geb. u. Gyn. March 1904 (Vol XIX) p 360. Robert Dorlé's similar cases. Stein operated on 2 sisters with fibro-myoma [illegible]

Schanta "Desmoid der Bauchdecken"

5 cases of desmoid seen by him in 13 yrs. Last case ~~seen~~ detected after delivery, removal left a gap in the fascia

Fleischlen removed 3 fibromas from the abdominal wall of a woman p. whom he had enucleated a fibromyoma of the uterus 2 years previously when she was 35 — eleven years later (when she was 48) he removed uterus above cervix for recurrence of fibr.d growths. Yet the uterus seemed free when he examined the pt 6 years after the myomectomy (Zeitschr. f. Geb. u. Gyn. Vol 51. Ht 3 (1904) Rep. of Berlin Obst. Soc)

(Also Author's case in Trans. Obst. Soc Vol 37. p. 42 showing increase in pregy) "Fibroma of the Abdominal Wall; Increase during Pregnancy"

Fleischmann. Fibroma of abd. wall and discussion (Dänger, Weinlechner) Vienna Obstet & Gyn. Soc. March 31. 1903. See Revue de Gyn. et de Chirurg. abdom. Vol 8. p. 517 (1904)

Füth. "Desmoid" of abd. wall diagnosed even under narcosis as ovarian (Zentralbl. f. Gyn. No 37. 1904. p. 1115.) Patt 40 — elder desmoid

Michel Fritz (Zentralbl. f. Gynäk. No 41 1904 p. 1201), "Lipoma des Bauchfells. Ein kinder..." It was subject. Æ 57. lipoma taken for an ovarian tumour. It was entirely preperitoneal & dipped into pelvic cavity, no trouble about enucleation, though it lay under bladder & uterus [Contin? opp: p. of present]