

## PARASITIC OVARIAN TUMOURS

BY

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Parasitic ovarian tumours resulting from spontaneous amputation from their parent ovary are a rare complication of this gonad, so much so that many of the standard text books make no mention of it. Apart from the rarity of this condition, its importance lies in the differential diagnosis of abdominal tumours. These parasitic ovarian tumours due to their high position in the abdomen can be mistaken for new growths of the omentum, pancreas or bowel. The possibility of amputation from the ovaries, if kept in mind, together with exploration of the pelvic organs after laparotomy, may be the only means of revealing the origin of these tumours.

Rokitansky in 1860 was the first to report such an occurrence. Later on many such odd cases were added to the literature by Wells (1882); Doran (1884); Thornton (1888); Hengge (1899); LeMoniet (1912); Weiner (1915); Mayer (1926); Bass (1929); Greenhill (1933); Sugasti (1940); Blackwell et al (1946); Reinisch (1950), and Freeth and MacVine (1951).

Its incidence has been reported by Weiner as 0.37 per cent of all the

complications in 269 ovarian tumours. Blackwell et al (1946) however found an incidence of 0.88 per cent in a review of 225 ovarian dermoids. All the recorded cases were of dermoid tumours.

Usually in the reported cases of spontaneous amputation, the parent ovary and the corresponding tube remained attached to the tumour by a pedicle which consisted of fallopian tube, ovarian vessels, infundibulopelvic and broad ligaments. On the other hand ovarian cysts which separate from the parent ovary and the corresponding tube to become parasitic in nature are rare. According to Reinisch (1950) only three authors namely Hengge (1899); Sugasti (1940) and Blackwell et al (1946) have described such an occurrence. Recently Freeth and MacVine (1951) have added one more case to this latter group, associated with torsion of the great omentum. Our case cited below also belongs more or less to this rare group in the sense that the corresponding tube was completely normal while the parent ovary was replaced by a puckered thickened area. However biopsy from this area revealed no ovarian tissue. In our opinion the

increased size of the cyst before separation by causing stretching may have been responsible for the destruction of the ovarian tissue. Freeth and MacVine make no mention of whether any ovarian tissue was present in the place of the ovary from which amputation had taken place in their case.

#### Case Report

Patient S. aged thirty years was admitted in Queen Mary's Hospital on 10-10-1951, complaining of a mass and pain in abdomen since the last delivery (1948). The pain had increased in severity for the past 20 days. She was para 8—0 and the last delivery took place in 1948. She attained puberty at the age of thirteen years and from then onwards her periods were regular except that she had amenorrhoea for the past two months. The present illness started with pain in the lower abdomen since the last delivery. She also noticed a swelling and a mass in abdomen for the same period which gradually went on increasing. Since about 20 days back the pain in her lower abdomen had become worse. General examination revealed that she was in agony and dehydrated. Her temperature was 98°F at the time of her admission, while pulse was 120/min. and blood pressure 112/60. She had no appetite and her bowels were constipated and she had difficult and painful micturition. On examination the abdomen was found to be distended and the whole of the left side and upper abdomen tympanitic. The bladder was full and its upper

border was three fingers above the symphysis pubis. Between these two cystic swellings there was another tender cystic mass filling the centre and right side of the abdomen. It reached upto the level of thirty four weeks of pregnancy and was dull on percussion. Bimanual vaginal examination revealed that the cervix was directed backwards. The external os admitted one finger while the internal os was closed. Uterus was anteverted and its size could not be made out. A hard mass was felt in the anterior and left fornices which appeared to be connected with the mass felt per abdomen. Per speculum the cervix appeared to be blue. A provisional diagnosis of twisted ovarian cyst was made, giving rise to signs and symptoms of acute abdomen. Total W.B.C. count was 6,500/cm. and the differential count as follows: Polymorphs—70%, Lymphocytes—29%, and Eosinophils—5%. Urine examination did not show any abnormality except albumin in traces. Two high rectal enemata were given with poor results. One pint of glucose saline was given intravenously and suction was carried out at hourly interval by the Ryle's tube. In the mean time the patient was prepared for exploratory laparotomy which revealed the uterus to be enlarged to the size of sixteen weeks pregnancy. Above and to the right of the uterus a big bluish cystic tumour was seen arising to about three fingers above the umbilicus. The omentum was found to be adherent practically all round to the cyst wall. On the left side,



however, there was a prominent thick band of omental adhesion to the cyst mass which could not be separated by blunt dissection and had to be severed between clamps. This was obviously the main blood supply to the parasitic cyst. In most of the other places the adhesions were fragile. Posteriorly loops of bowels were also adherent to it. The cyst, after separation from its adhesions, was found to be completely free from any connection with the pelvic structures. The adnexa of both sides were examined. On the left side the ovary was not well defined and instead, there was a puckered thickened area, size of about  $1\frac{1}{2} \times 1$  cm. The left fallopian tube and the adnexa of the right side were completely normal. Biopsy was taken from the ? left ovary and the abdomen closed. The post-operative period was uneventful.

In gross appearance the cyst measured 20 x 10 cm. and weighed 2,700 gms. Its outer surface was pinkish blue in colour. A number of injected veins could be seen over its outer surface and there was a stump of the omental pedicle attached to the left side. On cut section the cyst was found to contain a large amount of sebaceous material. At one corner a bunch of hair and six well formed teeth were seen arising from it.

Several sections from the cyst wall revealed a typical dermoid cyst having structures derived from all the three germinal layers.

Biopsy taken from the puckered area on the site of the left ovary did not show any ovarian tissue.

*Diagnosis:* Parasitic dermoid cyst of the ovary associated with pregnancy.

*Comments.*

It is of significance that dermoid cysts of the ovary alone have been reported to have undergone this spontaneous amputation. The reasons for this in our opinion are two fold. The increased weight of these tumours in comparison to their small size predisposes them to a high rate of torsion, which in the opinion of most of the other authors as well, is the most likely explanation for the occurrence of spontaneous amputation. Secondly, dermoid cysts are more readily enucleated than other ovarian tumours, due to their thick covering of substantia propria. Other cysts, due to their thin covering, get ruptured when they undergo torsion and so have no opportunity of getting parasitic attachment.

Many views have been put forward regarding the mechanism of spontaneous amputation of ovarian cysts. Ivens (1909) observed that it occurred most commonly following pregnancy and that the majority of cases were seen in multiparae. Mayer in 1926, in his collective review of 13 cases, observed that amputation of ovarian tumours from their parent gonad was due to torsion. Bass (1929) on the other hand put forward the view that amputation may take place due to tuberculous disease of the pedicle. The view of most of the authors now is, that torsion, leading to adhesion to the surrounding structures and

simultaneous weaning from the ovarian blood supply as a result of necroses of the pedicle, is the most likely occurrence in cases where the fallopian tube and ovary are included in the amputation.

In the more unusual event where the ovarian tumour separates from the parent ovary and the corresponding fallopian tube to become parasitic, as in the case described above, the opinion of Vercoutre (1879) is that the upward push of the pregnant uterus results, in the course of time, in upward stretching with avulsion of the cyst from the ovary. Significantly this occurrence is conspicuous by the absence of pedicle formation and torsion. This view has been further supported by Freeth and MacVine (1951). In their case the symptoms appeared during first pregnancy which went to term and could be explained by the pressure of the growing uterus giving rise to the avulsion of the cyst. In our case however the patient was pregnant only 16 weeks at the time of examination and had complained of pain and a mass in the abdomen since the last delivery in 1948. It is possible, that avulsion of the cyst had occurred during the last labour and that the pain after avulsion may possibly have been due to attempted torsion of the omental pedicle. The more severe pain for the past 20 days before admission was possibly due to pressure on the descending colon and on the bladder, both of which were much distended.

According to Reinisch (1950) pedicle formation does occur between the tumour and the ovary. It

is a gradual process leading to elongation and narrowing of the pedicle due to the heavy contents and pull of the cyst, subsequently resulting in final amputation.

#### *Summary and Conclusions.*

A case of parasitic dermoid cyst of ovary has been reported and the mechanism of the condition discussed. Upward pressure of a previous pregnancy may have avulsed the cyst from the parent ovary. In abdominal tumours of unknown origin and especially in the tumours of the omentum, a possibility of spontaneous amputation of a dermoid cyst of the ovary should be kept in mind.

#### *References*

1. Bass, F.: Zbl. Gynak., 53: 1573, 1929.
2. Blackwell, W. J., Dockerty, M. B., Masson, J. G., and Maussey, R. D.: Amer. J. Obstet. & Gynec., 51: 151, 1946.
3. Doran, H.: Tumours of the Ovary, Fallopian Tube and Broad Ligaments, pp. 118, London, 1884.
4. Freeth and MacVine, J. S.: J. Obstet. & Gynec. Br. Emp. 58: 839, 1951.
5. Greenhill, J. P.: Amer. J. Obstet. & Gynec., 26: 909, 1933.
6. Hengge, A.: Mschr-Geburtsh. Gynak., 10: 83, 1899.
7. Ivens, F.: Lancet., 2: 1206, 1909.
8. LeMoniet,—: Gynecologie., 16: 149, 1912. (Quoted by 4).



9. Mayer, A.: in Halban, J., and Seitz, L., *Biologie und Pathologie des Weibes.*, 5: 898, 1926. (Quoted by 4).
10. Reinisch, M.: *Amer. J. Obstet. & Gynec.*, 60: 920, 1950.
11. Rokitansky, C. (1860): (quoted by 4).
12. Sugasti, J. A.: *Bol. Soc. de obst. Y. ginec. de Buenos Aires*, 19: 832, 1940.
13. Thornton, K.: *Int. J.*, P-357, 1888.
14. Vercoutre,—: *Rev. Med. milit.*, 35: 1, 1879. (Quoted by 4).
15. Weiner, S.: *Amer. J. Obst. & Gynec.*, 72: 209, 1915.
16. Wells, T. S.: *Ovarian and Uterine Tumours*, pp. 60, London. (Quoted by 4).