

# A. HAEMOPERITONEUM, SECONDARY TO RUPTURE OF CORONARY VEINS, ON A FIBROID UTERUS

(Review of World Literature)

by

RAMESH H. DEOPURIA,\* M.B.B.S., M.R.C.O.G.

Fibroids are the commonest tumours which women have. One in every five women has fibroid tumours of the uterus. There are many complications which can arise as a direct result of these tumours, such as, menorrhagia, metrorrhagia, post-menopausal bleeding, degeneration of fibroids and torsion of a pedunculated fibroid, to mention a few. One of the rarest difficulties which results from fibroids is intra-peritoneal haemorrhage from rupture of coronary vessels on the surface of these tumours. Only a few cases of this complication are reported in world literature. Considering the high incidence of these tumours and well-known potentialities for grossly disturbing the normal anatomy and vascular arrangements of the pelvis, it is rather surprising that such vascular catastrophes have not more frequently been reported. We had one case with this complication which is reported here.

## Historical

The first case was reported by Rokitański in 1861, who described

\*Registrar in Obst. & Gynaec., City General Hospital, Stoke-on-Trunt, England.

Received for publication on 28-11-1969.

the post-mortem findings in the case of a girl who died of intraperitoneal haemorrhage from the rupture of a vein on the surface of a fibroid.

Brunner in 1910 was able to collect 10 cases and he was one of the few who have made the correct pre-operative diagnosis.

In 1932, Polacco reviewed 29 cases of this condition, and in two cases the arteries were found to be the pathological site of bleeding.

The remaining reports are scattered through German, French, Spanish and Scandinavian literature with about 18 additional reports in English.

Hasskarl (1949) reviewed the world literature very carefully and he found only 50 "bona fide" cases of this condition. He also found less than ten cases where the bleeding was from the twisted pedicle of a fibroid and hence these cases were not included in this review. To this he added one case of his. Since then a few more cases have been reported.

Woodruff (1948) 1 case, Davies (1950) 2 cases, Sheehan (1951) 1 case, McNil (1952) 1 case, Bosch *et al* (1950) 1 case, Kaye and Ficarra (1950) 1 case, Romer (1951) 1 case, Li and Graden (1952) 1 case, Badawy (1961) 1 case, Bigby (1960) 1 case and Zajac (1952) 1 case.

We could only get the above cases after an extensive search of the world literature.

A comprehensive review of these 64 cases is given. In the reports of these cases, the detailed data we would like to present were not included. However, an effort is made to give the overall picture of the complications.

#### *Aetiology*

Various factors were responsible for these complications.

#### *(a) Increased abdominal pressure*

The majority of the cases reported gave a history of hard work, such as washing clothes, scrubbing the floor, hanging a picture on a high shelf, gardening. In one case, violent coitus precipitated the haemorrhage. One patient gave a history of a fall. In one case there was a history of abdominal massage. One patient fainted immediately after defaecation.

Increased abdominal pressure may cause passive congestion of the superficial veins and a vein may rupture.

#### *(b) Menstruation*

Out of 64 patients, 11 were menstruating at the time of onset of this complication. Three more just expecting the period in two or three days. Thus, congestion of these tumours increases the pressure in the veins and due to the thin wall of the vessel the vein may rupture.

#### *(c) Pregnancy*

Increased congestion of pelvic organs during pregnancy may be the precipitating factor. Greenhill (1947) collected 15 cases who were pregnant at the time of this complication, but

only 5 of these are included in this review as sufficient detail was lacking in others.

#### *(d) Age*

Age was given in 59 cases. The youngest reported case was 22 years and the oldest 54 years.

Age	No. of cases
20-29	6
30-39	28
40-49	20
40-59	5

Thus, the greatest number (48 out of 59) were between the age of 30 and 49 years, which corresponds with the older reproductive years of life when fibroids may reach a considerable size.

#### *(e) Parity*

Most of the cases reviewed by Hasskarl (1949) were multipara, only two being nullipara out of 51 cases. But subsequently, out of twelve cases in which the age was mentioned, five were nullipara and one patient had only one miscarriage. Out of the remaining six multiparae, four had the last child nine years or more ago.

#### *(f) Site of the ruptured vein on the fibroid*

The varices are subserous between the tumour capsule and the peritoneum.

Hasskarl (1949) noted the presence of a ruptured vein on the posterior surface of the fibroid uterus, but the exact figures were not given, as exact clinical data were often missing. Out of 23 cases reported by Ernst and Gammeltoft, (1922) the vein was situated posteriorly in 11 cases. Out of 13 cases reported after Hasskarl,

in six the vein was posteriorly situated. The veins in this situation lay in contact with the promontory of the sacrum. A direct trauma to this part must be considered as an aetiological factor.

#### (g) Adhesions

If there are adhesions between the posterior wall of the tumour and the posterior peritoneum, movement of the tumour may cause a tear in the surface peritoneum leading to bleeding.

#### (h) Degenerative changes

The red degenerative process may spread to the vessel wall and thus cause bleeding.

#### (i) Essential hypertension

In three cases the bleeding was arterial and essential hypertension was thought to be the aetiological factor.

#### Symptoms

The onset of abdominal pain was sudden in practically all cases and some patients collapsed within minutes after the pain began. However, one patient claimed to have had abdominal pain for the past three months and another for about six months. Usually the patients have a sudden sharp pain over the lower abdomen. This may be followed by marked dizziness, weakness, frequent vomiting and diarrhoea. As reported earlier, the onset is often brought on by trauma. In some cases there is no history of exertion before haemorrhage as was in our patient. Shoulder pain may be present.

#### Signs

In most of the patients physical examination uniformly confirms the signs of peritoneal irritation, as evidenced by tenderness, muscle guarding and spasm, and possibly rebound tenderness. On bimanual examination, the presence of a pelvic tumour should be noted, since when haemorrhage occurs it is usually from the large fibroids several inches in diameter. These should be palpable even though the abdominal wall is not relaxed.

Usually the classical signs of shock are present.

#### Investigations

The haemoglobin is usually low, but it is no guide to the amount of bleeding. Leucocytosis and polymorphosis is seen.

#### Flat x-ray plate of abdomen

This may help to rule out an intestinal condition and may reveal the presence of a pelvic mass.

*Peritoneal tap through the Pouch of Douglas.* This is a very good diagnostic procedure. In most cases non-clotting blood or blood clot fragments are obtained in the presence of massive intraperitoneal haemorrhage.

#### Pregnancy test

A positive pregnancy test will go in favour of bleeding from ectopic pregnancy, but a negative pregnancy test does not exclude pregnancy.

#### Diagnosis

The diagnosis of intra-abdominal bleeding owing to rupture of a vessel over the surface of a fibroid uterus is rarely made. Pre-operatively only

five cases were diagnosed including one of ours, out of all these 64 cases.

A pre-operative diagnosis could be possible if the following points are kept in mind:

1. Sudden spontaneous onset of acute abdominal pain in women with no previous abdominal difficulties.

2. Evidence of increasing intra-peritoneal haemorrhage with the usual signs of peritoneal irritation and progressively increasing signs of shock.

3. History of a pelvic tumour or presence of a pelvic or lower abdominal tumour on bimanual examination.

Thirty-nine cases from 64 patients had a previous knowledge of pelvic tumours, for the past few months or a few years.

In 19 cases, there was a definite history of abdominal tenderness.

#### Differential Diagnosis

As mentioned above, a correct pre-operative diagnosis is very rarely made. The other diagnoses made were:

1. *Intra-peritoneal haemorrhage.* This was the commonest diagnosis.

2. *Ruptured ectopic or haemorrhage from a corpus luteum.* Bimanual examination may reveal an adnexal mass and a normal soft uterus. There may be some other signs of pregnancy. The pregnancy test may be of some help.

3. *Twisted ovarian cyst or torsion of a fibroid.* Twisted cysts and torsion of fibroids cause enough pain to result in shock, but generally do not result in the pale anxious facies, thready pulse and low blood pressure of massive intra-abdominal haemorrhage.

4. *Haemorrhage in an ovarian cyst.* It will give severe pain, but usually there are no signs of massive internal bleeding.

5. *Acute appendicitis.* Nausea, vomiting, and bowel complaints will be more predominant. Pain usually starts around the umbilicus and may settle in McBurney's point.

6. *Ruptured peptic ulcer or ruptured bowel.* There may be presence of a gas shadow under diaphragm.

Acute pancreatitis, ruptured spleen, intussusception, volvulus and mesenteric thrombosis were considered in a few cases.

A similar picture is seen in case of rupture of an aneurysm of a vessel.

#### Treatment

Fortunately, this condition presents as a surgical emergency. Supportive therapy, i.e. blood transfusion and plasma expanders are given, and preparations are made for an immediate laparotomy.

The details of surgical procedures were available in 60 patients:

31 patients had supra-cervical hysterectomy, 16 patients had myomectomy, 8 patients had total abdominal hysterectomy, 1 patient had ligation of the bleeding vessels. In three cases only "hysterectomy" was mentioned.

One of the patients who had myomectomy had total abdominal hysterectomy done six months later.

In young and nulliparous patients, every effort was made to save the uterus by doing myomectomy.

Hysterectomy seems to be the operation of choice, when the patient is having multiple fibroids and many superficial blood vessels are present. In former days, supra-cervical hyste-

rectomy was favoured, but the later cases had total abdominal hysterectomy.

#### *Histopathology report*

The size of fibroid tumours was mentioned in various ways.

Most of the earlier writers compared the size to a child's head or man's head. In twelve cases the size was compared to a child's head, while in three cases to a man's head.

Later the weight and dimension of the fibroids were mentioned. In some cases the size was compared with the gestational size. Ten tumours were measured in this manner. 3,000 grams was found to be the average weight and 10 to 16 cm. was the average diameter. The largest diameter mentioned was 25 cms.

#### *Morbidity and Mortality*

In most of the patients the post-operative course was uneventful, except for occasional fever or urinary complaints.

In 1928, Hoffman described 28 cases. Death occurred in six of these, a mortality of 21 per cent. In the group of 64 cases included in our review, 28 cases were recorded before 1928. In 27 of these there were seven deaths, a mortality of 26 per cent. In the remaining case there was no record of the outcome. Since 1928 we found 36 cases with one death, giving a mortality of 3%. In four of this group there was no record of the outcome. The patient who died was neglected for about 24 hours or more and she died four days post-operatively.

The mortality rate would be con-

siderably higher if it were not for the fact that in such an abdominal emergency, severe symptoms demand that a laparotomy be performed regardless of the pre-operative diagnosis, when we are armed with blood and antibiotics.

#### *References*

1. Badawy, A. H.: Brit. Med. J. 717, 1961.
2. Bigby, M.: Brit. Med. J. 581, 1960.
3. Bosch, D. T., et al: Am. Pract. & Digest Treat. 1: 177, 1950.
4. Brunner: Korresp. Bl. Schweiz. Arz. 40: 957, 1910.
5. Davies: J. Obst. & Gynec. Brit. Emp. 57: 248, 1950.
6. Ernst and Gammeltoft: Acta. gynae. Scand. 1: 104, 1922.
7. Greenhill, J. F.: Year Book of Obst. & Gynec. 1946.
8. Hasskarl, W. F.: Proc. Mayo Clin. 24: 207, 1949.
9. Hoffman, f. Geburtsh.: U. Gynak. 78: 219, 1928.
10. Kaye, B. B. and Ficarra, B. J.: J. A. M. A. 144: 616, 1950.
11. Li, G. and Braden, R.: Am. J. Obst. & Gynec. 63: 1167, 1952.
12. McNeil, A. T.: J. Obst. & Gynec. Brit. Emp. 59: 252, 1952.
13. Palacco: G. Med. Atto Adige. 4: 34, 1932.
14. Rokitansky (1861) quoted by Ernst & Gammeltoft, Acta, Gynec. Scand. 1: 104, 1922.
15. Romer, H. K.: Nord. Med. 46: 1078, 1951.
16. Sheehan, V.: Irish J. Med. Sci., p. 285, 1951.
17. Woodruff, M. F. A.: Brit. J. Surg. 35: 311, 1948.
18. Zojac: Przegl lek. 8: 97, 1952.