

# TORSION OF THE FALLOPIAN TUBE

(Report of Two Cases)

by

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Torsion of the fallopian tube is rare and so far Lygonis (1960) has traced over 200 cases in the world Literature. Though hydrosalpinx is fairly common but its torsion is uncommon and it is difficult to diagnose pre-operatively because there are no characteristic clinical symptoms, specially when the tube is known to be healthy. The condition is usually mistaken for a twisted ovarian cyst, ectopic pregnancy, acute salpingitis, acute appendicitis and even infection of the urinary tract.

Bland Sutton (1890) is said to have reported the first case of torsion of the fallopian tube. In the majority of the cases the tube was the seat of some pathology, the commonest being hydrosalpinx as reported by Anspach (1912), Eastman (1927), Shaw (1949), Jadhav (1958), Achari and Ramkisson (1962), Youseff *et al* (1962), Tamasker and Tamasker (1964), Narayan Rao (1965) and Gulati (1965). Torsion of pyosalpinx, Wolff (1951), tubo-ovarian mass, Narayan Rao (1965) after sterilisation, Kohl and Sandler (1956) and even the torsion of the normal fallopian tube, Delsoldenoff (1949), Lygonis (1960) are also reported.

## Case Report

### Case 1

Mrs. C., aged 30 years, was admitted in the Zenana Hospital, Jaipur, on 3rd January 1969 at 11.00 A.M., with the history of acute pain in the lower abdomen, vomiting for three days, constipation and distension of the abdomen for one day. A Graffenberg ring was inserted three years ago at Ahmedabad. Her menstrual cycles were regular and last menstrual period was one month ago.

Obstetrical history revealed that she had five full-term normal deliveries, all were living. Last delivery was four years ago.

**General Examination:** The patient was looking ill and anaemic, pulse 120/min; Temp. 98.4°F; B.P. 110/70 mm Hg. Systemic examination did not reveal anything in particular.

On abdominal examination there was marked tenderness in the lower abdomen but no lump was felt. Vaginal examination revealed that the cervix pointed downwards and forwards, uterus retroverted, retroflexed, normal in size. A diffuse tender, cystic, non-mobile swelling about 10 cms x 10 cms was palpated in the anterior and the right fornix. The left fornix was free. On speculum examination the cervix was healthy. A provisional diagnosis of ectopic pregnancy or a twisted ovarian cyst was made.

**Investigations:** Hb 8.2 m%; RBC, 3.1 million/cum; TLC, 7400/cum; DLC, P, 65%, L 35%. Urine-nil, x-ray of the pelvis showed Grafenberg ring in the centre of the pelvis.

**Operation Notes:** On 4-1-69 under general anaesthesia the vaginal examination was

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Received for publication on 22-7-1970.

repeated, and revealed the same findings. Needling was done through the right fornix and blood-stained fluid was aspirated and hence laparotomy was decided on in view of the diagnosis of ectopic pregnancy.

On opening the abdomen a dark red tumour arising from the pelvis about 12.5 cms x 10 cms in diameter was seen. On further exploration the tumour was a distended left fallopian tube which had twisted thrice at its isthmal end. The left ovary was normal. The twist was undone. The right tube and ovary were normal; tubal ligation was done on the right side. The uterus was normal and the Graffenberg ring was removed after making a vertical incision into the uterus. The post-operative period was uneventful and she was discharged on 24-1-69.

**Gross appearance:** The specimen consisted of a retort shaped, tense, cystic and dark red tumour 12.5 cms x 10 cms and on opening it altered blood came out.

**Histopathology report:** Showed haemorrhages into the fallopian tube with no evidence of inflammation.

#### Case 2

Mrs. B., aged 45 years, was admitted in the Zenana Hospital, Jaipur, on 16th January 1970, with the history of continuous pain in the lower abdomen and right loin for ten days preceded by a colicky pain, which started from the right renal angle and had radiated towards the right iliac fossa right thigh and was associated with vomiting. The colic had lasted for 24 hours. The pain started two days before the onset of the period which she never had before.

Her menstrual cycles were regular and the last menstrual period was eight days prior to her admission. Obstetrical history revealed that she had five full-term normal deliveries, all were living. Last delivery was four years ago.

General and systemic examinations did not reveal anything in particular.

On abdominal examination there was tenderness in the right-iliac fossa but no lump was felt. Vaginal examination revealed the cervix pointing downwards and forwards, uterus retroverted, retroflexed, and partially mobile. A firm, tender,

diffuse, non-mobile swelling about 10 cms x 10 cms. was palpated in the right fornix. The left fornix was free. On speculum examination, cervix was healthy. A provisional diagnosis of either a twisted ovarian cyst or torsion of the fallopian tube was made.

**Investigations:** Hb. 12.8 gm%; RBC 4.13 million/cumm, TLC, 7400/cumm; DLC, P. 65%, L. 35% Urine-NAD. On 17th January 1970 under general anaesthesia the vaginal examination revealed the same findings. Needling was done through the right fornix, nothing came out and she was kept under observation. As there was no response to conservative treatment, laparotomy was done on 21st January 1970. On opening the abdomen a dark red tumour arising from the pelvis about 11 cm x 5 cms was seen. On further exploration the tumour was the distended right fallopian tube which had twisted twice one cm. away from its isthmal end. The right ovary was adherent to this distended tube and both of them were prolapsed in the pouch of Douglas and were adherent to the intestines. The adhesions were separated and the tube and ovary delivered out of the pouch of Douglas. The twists were undone. The left tube and the uterus were normal but the left ovary was cystic. In view of her age and parity total hysterectomy with bilateral salpingo-oophorectomy was done (Fig. 1). The postoperative period was uneventful and she was discharged on 31st January.

**Gross appearance:** The specimen consists of a retort-shaped, tense, cystic and dark red tumour about 11 cms x 4.5 cms of the right tube. There was a raw area over the anterior surface of the tumour where the ovary was adherent. On opening altered blood came out.

**Histopathology:** The picture is compatible with gangrene of the part.

#### Discussion

Torsion of the tube is rare, as it has a broad pedicle of mesosalpinx as compared to an ovarian tumour and the twist in these cases is a slow procedure. A hydrosalpinx fulfills the conditions required for torsion of any organ i.e.; freely mobile

tumour, more or less fixed at the base by the pedicle. Pyosalpinx rarely undergoes torsion because it is usually associated with adhesions. Many theories exist about the mechanism and aetiology of torsion of the tube but none is very convincing. The causative factors in tubal torsion may be intrinsic or extrinsic.

*Intrinsic causes* i.e. abnormalities of the tube itself which are said to favour torsion includes:

1. Congenital tubal anomalies, such as excessive length Keller and Keller (1959) excessive length Keller and Keller (1959), tortuosity spiral course. Herve (1957), Neel (1943), and a long mesosalpinx which does not extend well laterally to the tubal fimbria, Kohl (1956).

2. Acquired pathology, such as swelling of the tube (Keller and Keller 1959) by hydro—or haematosalpinx, tubal neoplasm and previous surgery on the tube such as Pomeroy's operation of sterilisation (Kohl 1956).

3. Abnormal peristalsis of the fallopian tube which may be due to autonomic dysfunction (Michon 1930, Blum Sayre 1937; Herve 1957).

*Extrinsic Causes*—which may predispose to torsion of tube include:

1. Changes in the neighbouring organs such as tumours of the ovary or parovarium (Keller and Keller 1959), omental or other adhesions to the outer part of the tube (Michon 1930; Shaw 1949) and enlargement of the uterus by pregnancy or tumour. This factor is by far the most important in the aetiology of tubal torsion (Youseff 1962).

2. Mechanical factors such as movements and contractions of the neighbouring hollow viscera (Keller and Keller 1959) sudden body movements and trauma to the abdominal wall Blum and Sayre (1937); Humphreys (1960); McIlroy

(1910) and Shute (1962). McIlroy (1910) states that trauma applied to pelvic organ is tangential and so has a twisting movement and often symptoms appear after unaccustomed trauma. Other factors are the laxity of the abdominal wall as in puerperium.

3. Pelvic congestion: This seems to be of some importance in predisposing to tubal torsion as shown by the fact that this accident often occurs at the time of ovulation or in the immediate premenstrual period as is seen in Abbas (1955), Herve (1957), Keller and Keller (1959), and in our cases.

Eighty per cent of the cases of torsion of the tube, are said to have occurred in women of child-bearing age and the remainder have affected girls at the menarche (Shute 1932) The incidence of the hydrosalpinx undergoing torsion showed 68% on the right side. It is believed by Keller *et al* (1956) to be due to physiological right-sided torsion of the uterus. The direction of the torsion is usually clock-wise in 62% of the cases.

4. Haemodynamic theory has been stressed by Keller and Keller (1959) i.e. the pulsation of the blood vessels in the mesentery of the tube can be in some way initiate the torsion.

5. Sellheims suggestion that the movement of the body and abdominal wall could be transmitted and this could initiate torsion. With this theory it is difficult to explain the transmission of the movements or jerks to the normal tube which is deep in the pelvic cavity and is not a freely mobile structure.

The torsion of the tube occurs more often in the normal than in the diseased tube (Thomas, 1954, Keller and Keller, 1959; Youseff 1962), Distension of the tube with sero-sanguinous fluid is due to the tissue reaction which is the result of torsion in the normal tube, which if gra-

dual or intermittent may lead to occlusion of the tubal ostium with subsequent distension of the affected organ which might have been the cause in our cases. The histological examination of the wall shows no evidence of chronic inflammation or any other lesion.

The most important symptom of tubal torsion is pain, usually of sudden onset (Wolf 1951; Kohl, 1956) and of paroxysmal or intermittent nature (Goldberg and Olin 1938; Herve 1957). The pain is often present in an iliac fossa with tenderness locally and may therefore, if right-sided, simulate that of acute appendicitis (Youseff 1962) but classically it begins in or extends to the loin (Goldberg and Olin 1938; Shaw 1949; Kohl 1956) and may radiate to the pubis or to the thigh, as is seen in case 2 and mistaken for renal or ureteric colic. There is nausea with or without vomiting. The uterine bleeding following the onset of pain (Abbas 1955 and Desoldenoff 1949, Youseff 1962) may be explained by associated pelvic congestion. The condition is less liable to produce shock, as the onset is very slow and gradual. The absence of shock and the good general condition of the patient in the presence of severe pain is usually striking and helps to differentiate from twisted ovarian cyst and ectopic pregnancy. (Thomas 1954; Kohl 1956; Herve 1957; Youseff, 1962). Pulse and temperature are usually normal but later may be elevated (Kohl, 1956). Leucocytosis is often present but is seldom marked (Goldberg and Olin 1938; Shaw, 1949) distinguishes from acute appendicitis and acute salpingitis.

Cul de sac puncture may be negative or may yield some sero-sanguinous fluid but not frank blood, but when dark coloured blood is drawn it further makes the diagnosis difficult.

The treatment is immediate laparotomy

and salpingectomy. Youseff *et al* are in favour of preservation of the tube, if reasonably healthy, and if colour changes on undoing the twist. If tube is preserved it should be fixed in such a way as to prevent recurrence. This should be considered in a nullipara and in a multipara without a living child and if the opposite tube is badly damaged by previous inflammation.

#### Comments

1. Two cases of torsion of the fallopian tube are recorded.
2. The cause of torsion of the fallopian tube in our first case was not found. In case two there were adhesions to the intestines which could be separated with little difficulty, hence it is possible that the adhesions were the result of the torsion of the fallopian tube.
3. In both of our cases no evidence of infection was found on histopathological examinations in the fallopian tube suggesting that at first torsion occurred in the normal tube resulting later on the distension of the tube and inflammatory reaction.
4. In both our cases the condition occurred premenstrually which is a predisposing factor as reported by various authors.
5. In spite of both cases being acute abdominal emergencies simulating appendicular colic in case one and renal colic in case two, in neither of them was any shock found.

#### Acknowledgement

We are thankful to Dr. (Miss) E. Peters, F.R.C.O.G. (Lond.), Professor and Head of the Department of Obstetric and Gynaecology S.M.S. Medical College and Superintendent Zenana Hospital, Jaipur, for allowing us to publish these cases.

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*See Fig. on Art Paper I*