TORSION OF PREGNANT HORN OF A UTERUS BICORNIS UNICOLLIS

by

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Congenital abnormalities of the uterus with pregnancy are met with rarely and are likely to be missed even by the experienced obstetrician unless these are kept in mind while examining the patients presenting with bizarre signs and symptoms. Torsion of the pregnant uterus presents a fascinating problem because of its rarity. In most of the cases reported, the diagnosis has been largely a matter of surprise at laparotomy or revelation post mortem. This accident, though rare, has carried with it an overall maternal mortality of 14 per cent and a foetal loss of at least 46 per cent (Mitchell & Garrett.)

Torsion of the pregnant uterus is quite frequent an accident in veterinary practice because the quadruped posture of the cattle allows free mobility of the uterus, and partly because of the bicornuate nature of the uterus. Hippiaper Columbio was the first veterinary surgeon to report torsion in 1662. Virchow recognised this condition in 1863 at post-mortem examination and it was first reported by Labbe in 1876. In 1904, Barozzi made the statement "No tumour; no torsion." Robinson & Duvall modified the statement to read—"No uterine abnormality, no torsion." Nesbitt and Corner felt "No pelvic pathology, torsion unlikely" as the formula closer to the truth.

Torsions are divided into two types —primary and secondary. In the primary type, the torsion begins in the axis of the uterus itself. In the secondary type, which is commoner than the first, the torsion begins in the pedicle of some tumour and is transmitted later to the uterus. The present case deals with the rarer primary type, torsion of the pregnant horn of a uterus bicornuate unicollis. An extensive search in the literature could collect only 12 cases of this type including the present one and the discussion is confined to this specific problem of primary torsion of the pregnant horn of uterus bicornis unicollis.

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Case Report

Mrs. P.K., 28 years-old, was admitted to B.Y.L. Hospital Bombay, on 12-2-1962 with a history of seven months' amenorrhoea and generalized abdominal pain. The pain was sudden in onset and started 12 hours prior to the hospitalization. The patient vomited once at the onset of the present episode. There was no history of fever, constipation or bleeding per vaginam, or of passing worms in the stools. She complained of absent foetal movements 2 days prior to the present symptoms.

The patient had been married for 12 years. She had two abortions, each of four months' duration, 6 and 2 years ago, and was now pregnant for the third time. Her periods had always been regular and normal and there was no dysmenorrhoea. There was no history of bleeding per vaginam or fainting attacks during the present pregnancy. Micturition and bowels were normal

General examination of the patient showed a pale and moist tongue; the pulse rate was 88 per minute and blood pressure was 100/70 mm Hg. There was no oedema of the feet.

An abdominal examination revealed a swelling arising from the pelvis, oval in shape, tense, tender, dull on percussion and of the size of about 32 weeks of pregnancy. There was generalized tenderness and distention of the abdomen. No peristaltic movements were seen. Braxton—Hick's contractions were not felt; foetal parts could not be felt and foetal heart sounds were not heard. There were no signs of free fluid in the peritoneal cavity.

On vaginal examination, the cervix was placed high up in the pelvic cavity; the external os was pin point and closed. The uterus could not be defined separately from the ill-defined mass felt through the posterior fornix. Rectal examination and repeat vaginal examination after a simple enema did not yield any additional information.

Based on the findings detailed above, the differential diagnosis considered were

1. Pregnancy with twisted ovarian cyst.
2. Pregnancy with torsion or degeneration of a fibriod.
3. Torsion of gravid horn of bicornuate uterus.
4. Peritonitis of some orgin.

A senior surgical opinion ruled out the possibility of a surgical cause for the present condition. The following investigations were done; haemoglobin, 54 per cent, total white blood corpuscle count, 8600 per cu. mm. differential WBC count, polymorphs. 54, lymphocytes 40, eosinophils 6. Urine, no albumin or sugar. Blood group B, Rh + ve A plain x-ray of the abdomen in standing position showed a single foetus of about 28 weeks' size in vertex presentation. There was no gas under the diaphragm and there were no multiple fluid levels.

The patient was kept under close observation. She had progressively increasing pain and the pulse rate rose to 110/min. Because of uncertainty in diagnosis and further deterioration of the patient's condition, in spite of conservative line of treatment with higher antibiotics and intravenous fluids, it was decided to take this case for immediate laparotomy.

On opening the abdomen, the uterus was found to be markedly congested and bluish at places. The left round ligament was seen stretched, extending from the left inguinal region to the right flank. This was the pregnant left horn of the bicornuate uterus which had undergone a torsion of 180° in clockwise or left to right manner. The right horn was soft and enlarged to about 10-12 weeks' size of pregnancy. The tubes, ovaries and round ligaments on both sides were inspected and were found to be normal. The twist of the uterus was undone and the uterus was covered with warm saline packs. The colour of the pregnant horn did not improve. It was decided to do amputation of the pregnant horn (hemi-hysterectomy). In order to avoid extending the incision high up, the liquor amni was aspirated with a wide bore needle, and the pregnant horn was evacuated of its contents—dead foetus of about 28 weeks' duration (1.6 lbs.) and the placenta which was situated anteriorly. The gap in the cervix was closed in two layers. The round ligament and infundibulo-pelvic ligament of left side were stitched to the nongravid horn.

The abdomen was closed in layers. The patient received 700 ml. of blood during operation.

The patient had an uneventful convales-

cence except for slight superficial gaping at the upper end of the incision that healed well with local dressing. She passed an elliptical decidual cast 24 hours after the surgery.

Follow-up. She was examined on 19th day of surgery. There was a single cervix and a retroverted uterus deviated to the right side, and there was an induration in the region of amputation of the pregnant horn. Hysterosalpingography done 2 months later showed a normal sized uterine cavity with a patent right tube. Unfortunately, the patient has not come for further follow-up and could not be traced as she has moved from her original address.

Discussion

Torsion of the pregnant horn of a bicornuate uterus is a rare accident. Table 1 shows the list of all such cases found after extensive search of the literature.

Aetiopathology

A combination of factors could cause this episode rather than one single factor. The predisposing factors could be, (1) the narrow and elongated cervix might act as a pedicle for the unusually wide bicornuate body, (2) the softening of the cervix induced by pregnancy, (3) unequal development of the round ligament and broad ligament along with above mentioned factors allow wide and dangerous movements of the uterus, (4) pregnant horn of the bicornuate uterus causing asymmetry can cause deviation and torsion, (5) the physiological dextrorotation may be exaggerated during pregnancy.

Although most of these factors are present in practically all the cases of pregnancy in a bicornuate uterus, torsion occurs only in very few. Robinson and Duvall have designated such influences responsible for torsion as "Activating factors."

Activating factors

Robinson & Duvall have incriminated certain irregular bodily movements, posture and positions, irregular contractions of the abdominal muscles, functional variations in the size, anatomy, position and mobility of the bladder and rectum, variations in the attachment of placenta, foetal movements and even uterine contractions as occasional activating factors. Shah mentions movements like rolling over in bed, domestic duties like scrubbing the floor or washing clothes as exerting a variable and unequal pressure upon the underlying uterus.

Diagnosis and differential diagnosis

The diagnosis of torsion of the uterus is seldom definitely established prior to laparotomy. The recognition of a pelvic tumour is usually made without difficulty but the symptomatology is attributed to accidents more commonly than to torsion. Frequently mentioned preoperative diagnoses are ectopic gestation, degeneration, haemorrhage or torsion of a pelvic tumour, rudimentary horn pregnancy, peritoneal crisis, obstructed labour, accidental haemorrhage, rupture of uterus, abnormal foetal presentation or peritonitis. The confusion in diagnosis between torsion of the uterus and other surgical conditions is not serious since a laparotomy will be necessary in any case. Mistaking torsion for a non-surgical entity or for an obstetric complication usually manageable vaginally may well prove

TABLE I

Case No.	Author ; year	Age years	Parity	Duration of preg. weeks	Torsion : R : right L : left ; in degrees	Operation	Results
1	Egger, 1917	19	0	25	R. to L ; 180°	Hysterectomy	Recovery.
2	Schindler, 1919	22	0	28	R to L ; one and half turns.	Hysterectomy	Recovery.
3	Calmann, 1921	28	0	20	?	Hemihysterectomy (amputation of the preg.) horn of uterus.	Recovery.
4	Kiparsky ; 1924	26	0	24	R to L, 180°	Hysterectomy	Recovery.
5	Dieulafe, 1926	24	0	28	R to L, 90°	Manual detorsion	Recovery.
6	Ershev, 1927	35	3	24	R to L, 180°	None	Foetal death ; mother recovered.
7	Mc Clean, 1929	?	2	16	? More than 180°	Manual detorsion	Lithopaedion. Mother recovered.
8	Robinson, Duvall, 1931	30	0	33	R to L, 360°	None	Fatal.
9	Jonas, 1943	30	0	19	L to R, 90°	Manual detorsion	Abortion on 5th post-operative day ; mother recovered.
10	Rozychi, 1955	27	3	Term	L to R, 90°	Caesarean section Hemi - hysterectomy.	Recovery.
11	Shah, 1959	27	0	20	R to L 180°	Hemihysterectomy	Recovery.
12	Present case, 1962	28	0	28	L to R, 180°	Hysterotomy, hymihys-sterectomy.	Recovery.

disastrous to the patient. It is noteworthy that Nesbitt & Corner reported 5 cases out of 107 which were asymptomatic.

The following criteria should suggest the diagnosis of torsion of the uterus—

1. The uterus is tense and tender but not uniformly so e.g. knob might be felt at the site of engorged fallopian tube.. 2. Givod emphasizes the importance of demonstrating atresia in the lower birth canal by digital examination or by passing a probe inside the cervix. The presence of atresia does not preclude other causes of constriction but its absence militates against the diagnosis of torsion of uterus.

3. Spiralling of the vagina is diagnostic of torsion.

4. The bag of membranes is absent.

5. Passage of bladder sound may indicate spiral deviation of urethra and displacement of the bladder.

The key to proper diagnosis is in being aware of this rare but serious accident to the pregnant uterus. If the criteria described above are borne in mind preoperative diagnosis of torsion may occasionally be possible.

Treatment

Some writers claim to have reduced torsion by manipulation. Others have observed spontaneous cure. According to Robinson and Duvall, even postponing the operation in favour of antishock measures is useless because the shock of torsion is followed by and merges into progressive collapse, as the vascular and nervous damage becomes more pronounced. Improvement cannot be expected through delay.

At laparotomy the uterus may be untwisted and replaced or removed, depending upon its viability.

Summary & Conclusions

1. A case of torsion of pregnant horn of uterus bicornis unicornuate has been reported.

2. Summaries of 11 other cases reported in the literature have been collected.

3. Aetiopathology, activating factors, differential diagnosis, diagnosis and management have been discussed.

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