CHRONIC ECTOPIC TUBAL PREGNANCY

by

B. C. LAHIRI,* M.O., M.R.C.O.G., F.R.C.S.

Only a few pathological processes in medicine have a greater disparity of symptoms, signs and opinions than tubal pregnancy. It is this inconsistency that makes tubal pregnancy so fascinating to study and, at times, so difficult to diagnose.

In recent years, we have been often confronted with the frequent occurrence of 'chronic' ectopic tubal pregnancy in hospital practice. In contrast to the acute type where the patients were in shock with signs of internal haemorrhage, in the chronic type patients were not in shock and the products of conception and haemorrhage were walled off. The condition has been referred to in the literature under various designations such as "chronic", "delayed", "obscure latent", "obscure", "old ectopic", "cold ectopic" and "occult tubal rupture".

Material of Study

The present study is based on the analysis of 215 consecutive cases of tubal pregnancy admitted in Eden Hospital for Women, Medical College, Calcutta, within a period of 3 years between 1964-66. During the same period there had been 39,370 deliveries giving an incidence of one tubal pregnancy in 183 deliveries (about 0.54%). These 215 cases could be divided on the basis of the clinical features into 95 acute cases (44%) accompanied by severe pain and shock from blood loss, and 120 chronic cases (56%) presenting with features of pelvic inflammatory disease rather than rupture of the fallopian tube. The acute case is rarely missed by the ectopic-minded physician and it is the chronic ones, which are frequently confused with chronic pelvic inflammation or early septic abortion, that have been scrutinised in this study. A review of the literature of the last decade as also reports of an earlier study of 13 years up to 1954 and a later study up to 1962 in the same hospital, show a great variation in the incidence of the disease varying between 0.26 to 0.79 per cent. This variation may be related to the increased incidence of pelvic inflammatory disease and recognition of tubercular salpingitis and to the fact that use of antibiotics in treating salpingitis has resulted in diseased tubes which still remain patent. Since inflammatory changes are more marked in the distal one-third of the tube and since the "chronic" ectopic pregnancy usually occurs in the terminal portion of the tube, it seems reasonable to conclude that antibiotic

*Asst. Prof. of Obst. & Gynec., Medical College, Calcutta.

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therapy might predispose to the more chronic or obscure forms of ectopic gestation.

Clinical Data

Age and high parity do not rule out the diagnosis of tubal pregnancy but the commonest age incidence (75.2%) was between 20-30 years in both the acute and chronic group. About 21.9% in the series were nulliparous while 64.7% were between para 1 to para 4 and only 13.3% were above 4th parae. Thus more than two-thirds of the cases had been pregnant at least once before. Review of the literature also shows 91 to 95% age distribution between 20 to 40 years, 13 to 34% incidence in nulliparae and previous pregnancy in 65 to 72%.

It is interesting to note that absolute sterility was present in 9.3% cases and reduced fertility varying between 2 to 16 years in 38.1% of the cases (Table 1), which can probably be attributed to a possible puerperal, postabortal or appendicular infection.

TABLE I

Sterility

Type	2—4 yrs.	5—7 yrs.	8–10 yrs.	11—13 yrs.	Above 14 yrs.	Total
Absolute	2	4	6	6	2	20 (9.3%)
Relative	40	18	10	4	10	82 (38.1%)

Previous salpingitis was recorded in only 25% of the cases in this series which emphasises that the general impression that the majority of tubal pregnancies are the result of old salpingitis may not be wholly true. In nearly three-fourths of the cases some other explanation must be sought, such as, abnormal tubal motility congenital malformations, peritubal adhesions and abnormal conditions of the ova to mention a few. Previous laparotomy, though often accused of causing tubal pregnancy, was responsible in only 5.7% of the cases and offered little help in the diagnosis. Occurrence of previous salpingitis, as quoted by various authors, varied between 11 to 51 p.c., and previous laparotomy 10 to 30% of the cases.

Duration of illness—In the acute group, the average duration of symptoms was 8.5 days whereas in the chronic group it was 18.4 days, which was twice the length of the illness as that of the acute ones and may be explained by the repeated leakage of blood and walling off within the pelvis exhibited by cases of the chronic group in contrast to the rupture and fulminating haemorrhage present in the acute group.

Symptoms

Abdominal pain was the commonest symptom present in all patients, in both the acute and the chronic group. It was so consistently present (90.4%) that it may well be considered to be a pathognomonic sign. In most cases it was recurrent or continuous as a dull dragging ache in the lower abdomen. Similar pain

has been reported to be present in 67 to 100 per cent of cases in the literature. Rectal pain was elicited in 3 patients in the acute group and in 6 patients in the chronic group (Table 2).

The least dependable symptom was amenorrhoea, a clear history being present in only 51.5% of the cases in both the groups. But some form of menstrual irregularities was noted in 34.2% of the cases (Table 2), the last regular period being either abnormally scant, short, delayed or continuous. Thus it can be inferred that over 86% the cases did deviate somehow from their usual menstrual cycle. But to get an accurate picture of the menstrual cycle, especially from illiterate patients is most difficult, nevertheless it appears important in deciding the diagnosis.

TABLE II

Symptomatology

Type of cases	Pain	Vaginal bleeding	Syncope	Amenorrhea	Fever	Vomiting	Urinary & rectal symptoms	Abdominal swelling
Acute ..	.. 90.4%	60 60.3%	55 58%	49 51.5%	5 5.2%	49 55%	3 3.1%	2 2.1%
Chronic ..	88.2%	90 75%	8 6.6%	62 51.6%	85 70.8%	4 3.3%	6 5%	10 8.3%

Bleeding was the next dependable symptom present in both groups, being present in 60 cases (60.3%) in the acute group with an average duration of 8 days and in 90 cases (75%) in the chronic group with an average duration of 17 days (Table 2). The bleeding varied from slight 'spotting' to menorrhagia, the character of the bleeding being dark red or chocolate coloured. It has been reported to be present in 43.3 to 85% of the cases by different authors. But the character and nature of the bleeding, whether bright or dark red, whether spotting, moderate or flooding, continuous or intermittent, were of little diagnostic significance.

Syncope, faintness or collapse was noted in 58% of the cases in the acute group but a history of syncope was elicited in only 8 cases in the chronic group (Table 2). Frequency of this complaint varies greatly in the literature, between the lowest figure of 15% to the highest figure of 60% and as such can hardly be solely relied upon.

Abdominal swelling was noted in 2 acute and 10 chronic cases.

Nausea and vomiting as symptoms have been discussed in the literature and figures ranging from 9 to 52% have been quoted as to their presence. They were noted in only 3.3% of the chronic cases but were recorded in 55% of the acute cases and surely suggested acuteness of the condition.

A febrile response was present more frequently in the chronic group ranging between 98-100°F in about 70.8% but high temperature did form a common feature in some cases of old pelvic haematocele (Table 2).

Signs

The admission pulse and blood pressure are important in the acute cases but of little significance in the chronic group. The presence of anaemia and leucocytosis as evidenced by serial blood counts and haematocrit studies were helpful adjuncts in the diagnosis in chronic cases and about 20% of our cases had a haemoglobin level below 7 gm per cent.

Abdominal tenderness was present in 80% and adnexal tenderness in 90% of the acute cases but adnexal mass was found in only 45% of the cases of which only 30% were pulsatile. The chief findings had been tenderness in the cul-de-sac and tenderness on manipulation of the cervix, the latter being present in 85% of the cases. In the chronic group, both abdominal and adnexal tenderness were present in 90% of the cases and in all but 2 cases there were palpable adnexal mass (Table 3).

Cul-de-sac aspiration appears to us to be the most important single diagnostic aid for differentiating tubal pregnancy from other pelvic diseases and was reliable in over 82% of the cases in our series. Needle aspiration of the cul-de-sac through the posterior vaginal fornix was performed in 100 of the 120 chronic cases with positive results in 82 cases, and 60 of the 95 acute cases with positive result in 53. The procedure is relatively simple and fairly safe, and should be done in every case in which tubal pregnancy is suspected without in any way increasing the morbidity of the patients. At the same time it cannot be over-emphasised that it is extremely important to

TABLE III
Signs

Signs	Acute	Chronic
Shock	24 (25%)	Nil
Adnexal tenderness	85 (90%)	108 (90%)
Rigidity	18 (19%)	7 (5.8%)
Adnexal mass	34 (45%)	117 (97.5%)
Tenderness on moving cervix	81 (85%)	90 (75%)

Diagnostic measures: (Table 4)

TABLE IV
Diagnosis aids

Aids	No. of cases	Correct or positive	Percentage
Toad	20	5	25%
Uterine curettage	24	6	25%
Cul-de-sac aspiration	160	135	84.3%
Pre-operative diagnosis	95	83	88% (acute)
	120	84	70% (chronic

correlate the history, physical findings and the result of cul-de-sac aspiration to arrive at a correct diagnosis. We had no experience of culdoscopic examination as a diagnostic procedure in cases of tubal pregnancy during this series but have only recently started this examination in such cases.

While uterine curettage has been advocated by some authors, often the diagnostic difficulty of ruling out the presence of an intra-uterine pregnancy makes one hesitate to use this procedure routinely in these cases. The procedure may be considered of value in the detection of a decidual reaction in the absence of villi and has been reported to be present in 25-39% of cases in the literature. It was performed in only 24 cases of the series — 6 showed decidua, 13 proliferative and 5 secretory endometria. It appears that in a large proportion of cases, more particularly in those where bleeding has been a symptom for long, little or no information of diagnostic value is to be looked for from the microscopical examination of the uterine curettage.

Toad test for pregnancy appears to have a doubtful value in confirming the diagnosis. This test was employed in only 20 cases with 5 positive reactions, but in the literature a positive pregnancy test in over 75% of the cases has been reported. The toad test is of great help where the symptoms are not obvious and do not demand an immediate operation. As Te Linde puts it "a positive report is of definite value in non-urgent cases". But since the test remains positive only 10-14 days after foetal death, a negative report is of no value where the vaginal bleeding had been present for more than 2 weeks. Again, false positive tests, as for example, with intra-uterine pregnancy and ovarian cyst, or false negative tests are misleading, and have detracted from the real value of relying on pregnancy tests solely for the diagnosis.

Differential diagnosis

Correct diagnosis from conditions like appendicitis, twisted ovarian cyst, salpingitis, tubo-ovarian mass or uterine abortion are often difficult to establish even with all the clinical acumen and different diagnostic procedures at disposal. A correct preoperative diagnosis could be made in 88% of the acute cases and 70% of the chronic cases, some sort of pelvic inflammation causing the most errors in diagnosis.

Considering all these facts together, we believe that a careful history, a gentle, yet thorough pelvic examination, if necessary under anaesthesia, and an attitude in which one remains "ectopic conscious" are necessary. When these are combined with carefully performed cul-de-centesis proper diagnosis can very often be arrived at.

Treatment

Salpingectomy only was performed in 60 (62.5%) and salpingo-oophorectomy in 32 (33.5%) of the acute cases. Though salpingectomy is preferred in the acute cases, some salpingo-oophorectomies are inevitable. The ovaries should be conserved whenever possible though Jeffcoate advises routine oophorectomy on the affected side on the theoretical consideration of increased chances of

subsequent pregnancy since the remaining ovary is called on to furnish all ova which will have an oviduct at hand. Thus about 84.1% of the acute cases were handled by one operation or the other. One patient had cornual resection for cornual rupture, 1 had hysterectomy and one was admitted in extremis and died just after the operation.

Salpingectomy only was performed in 35 (29.1%) and salpingo-oophorectomy in 57 (47.5%) of the chronic cases. Thirteen (10.8%) cases had bilateral salpingectomy for tubal pathology on the opposite side. Hysterectomy was necessary in 8 cases (6.6%) as, either the uterus was incorporated in the mass of old haematocele, or removal of the organised gestation sac left behind a raw area behind the uterus which continued to ooze and needed extirpation of the uterus for perfect haemostasis. The more extensive operative procedures employed in this gronp were necessary because of increased destruction and distortion of adnexae and pelvic tissues.

Posterior colpotomy for drainage of pelvic abscess from an infected pelvic haematocele is rarely needed now-a-days with the advent of antibiotics and was needed in only 3 of our cases in the chronic group.

There may be exceptions to total extirpation of the affected tube if the patient's desire for a child is great and damage to the tube minimal. Salpingostomy of the affected tube or milking out of the tubal mole along with blood clots are worth giving trial to in such cases and were undertaken in only 3 cases of the series because of the increased risks of a second tubal pregnancy. But, it can hardly be denied that serious considerations for adopting such procedures have to be given in young patients who had a previous salpingectomy for either tubal pregnancy or pelvic inflammatory disease.

Mortality & morbidity: (Table 5)

TABLE V
Morbidity

Nature	No. of cases
Pyrexia above 100.4°F	22
Disruption of wound	4
Peritonitis	2
Paralytic Ileus	2
Total ..	30 (25%)

The morbidity was higher in the chronic ectopic group. This was characterised by higher incidence of post-operative fever, peritonitis and paralytic ileus and abdominal wound disruption as shown in Table 5.

There were 2 maternal deaths in the series. One came in extremis and died before operation could be undertaken and one died from paralytic ileus on the 7th day after operation.

Follow up of patients operated upon for tubal pregnancy is important from the point of view of future pregnancies. Only 7 cases (3.2%) of this series returned with normal pregnancy subsequently and had a normal delivery but the period of follow up is too meagre to arrive at a definite conclusion. The advisability of using hysterosalpingography to detect patency of the residual tube in the routine follow up of these cases has been recently stressed in the literature. Only 7 patients of our series

could be studied by this procedure after operation for tubal pregnancy and only 3 had a patent residual tube.

Summary and Conclusions

A study of 215 consecutive cases of tubal pregnancies amongst 39,370 deliveries (1:183), with 2 deaths occurring in a period of 3 years, is presented.

Chronic tubal pregnancy accounted for over half (56%) the cases.

About 75% of the cases occurred between 20-30 years; 21.9% were nulliparous, 48.5% had been sterile over 4 years and pelvic inflammatory disease could be traced in only 25% of the cases. The length of gestation was not increased but the duration of illness was twice as long in chronic ectopics.

The essential features were pain (90%.4), vaginal bleeding (75%), adnexal mass and tenderness (90%). The least dependable symptom was amenorrhoea (52%) but some form of menstrual irregularity could be traced in 34.2% of the cases.

The demonstration of anaemia was the only helpful laboratory finding. Uterine curettage or pregnancy test of urine as aids in diagnosis were of little benefit.

Cul-de-sac aspiration was an invaluable diagnostic aid and was positive in over 82% of the cases. A correct preoperative diagnosis was made in 75% of the chronic cases; some sort of pelvic inflammatory disease caused the most errors in diagnosis.

The pathological process was usually a large walled off haematoma around the products of conception in the outer half of the fallopian tubes.

Salpingectomy was performed in 29.1%, salpingo-oophorectomy in 47.5% and bilateral salpingectomy in 10.8% cases. Hysterectomy was necessary in 6.6% of the cases due to adherent organised old pelvic haematocele. Posterior colpotomy for drainage was needed in only 3 cases.

There were 2 deaths in the series and a morbidity of 25% was recorded.

Follow up studies with hysterosalpingography of patients operated for tubal pregnancy are important from the point of view of future pregnancies to detect patency of the residual tube.

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