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## Editorial

### CONSERVATIVE MANAGEMENT OF TUBAL PREGNANCY

In the past desperate attempts were made to destroy ectopic pregnancy by mercurials, iodides, strychnine, electric current, vaginal puncture of the sac etc. Surgical treatment was suggested way back in 1849. Lawson Tait courageously performed the first laparotomy for tubal pregnancy in 1883.

Till recently tubal pregnancy was merely suspected except in those cases with acute rupture. Suspected cases were hospitalised for observation until some of them ended in tubal rupture and many ended as 'chronic ectopic' with all its aftermaths. Culdocentesis was the only investigative tool of value. The end result was—prolonged hospitalisation of suspected cases and impaired future reproduction resulting from 'chronic ectopic' or salpingectomy. Almost 90% of tubal pregnancies were diagnosed after tubal rupture and ended in salpingectomy. About 55% of them never conceived again, 12% had recurrent ectopic and only 33% had livebirths in future. In fact, this holds true in our country even today.

The incidence of tubal pregnancy is increasing rapidly due to rise in pelvic infection, use of intrauterine contraceptive devices, greater resort to tubal surgery and inadequate or inappropriate antibiotic therapy for pelvic infection. In some Western countries the incidence has tripl-

ed in the last decade or so. Diagnosis is now possible at a very early stage thanks to radio-immunoassay for  $\beta$ -hcg, ultrasound examination and laparoscopy. In early intrauterine pregnancy serum  $\beta$ -hcg levels show an increase of 66% in 48 hours and they more than double in 72 hours. Failure to show such a rise, points to an aborting pregnancy or an ectopic one.

A gestation sac is identifiable at ultrasound examination if  $\beta$ -hcg values are 6500 mIU/ml or more. In fact vaginal sonography can demonstrate a gestation sac at  $\beta$ -hcg values of 3000 mIU/ml and even earlier. Sonography in ectopic pregnancy shows absence of gestation sac in the uterine cavity, abnormal fluid in the pouch of Douglas and ill defined adnexal mass of mixed texture. Serial  $\beta$ -hcg assays and sonography can pick up cases that should be subjected to laparoscopy and 80-90% of cases of tubal pregnancy can now be diagnosed before rupture.

Early diagnosis makes conservative treatment feasible. Stromme advocated conservative surgery for tubal pregnancy in 1953. To-day conservative treatment is well established and widely accepted. In ampullary pregnancy the tubal lumen remains intact. Unruptured ampullary pregnancies can be hence treated by linear salpingostomy on the antimesenteric border and aspiration of the products

of conception. Meticulous hemostasis in the raw bed must be achieved by electrocautery. The salpingostomy incision need not be sutured. Linear salpingostomy can be done at laparotomy or at laparoscopy and either electro-cautery or laser (Argon or CO<sub>2</sub>) can be employed. Cases of tubal abortion of ampullary pregnancy can be treated by fimbrial evacuation or salpingostomy. Milking of ampullary pregnancy through the lumen is not advocated as it has resulted in a high incidence of repeat ectopic pregnancy. Rupture in the broad ligament disturbs tubal blood supply and rules out conservative surgery. In cases of isthmic pregnancy, which constitutes only 10% of tubal pregnancies, the tubal lumen is generally destroyed. Isthmic pregnancy, either unruptured or with early rupture can be treated by segmental resection either at laparoscopy or at laparotomy. End-to-end anastomosis can be done at the same sitting or at a subsequent one.  $\beta$ -hcg becomes -ve 12 days after surgical treatment of tubal pregnancy. Positive  $\beta$ -hcg 2 weeks after linear salpingostomy indicates living chorionic tissue. Laparoscopic conservative surgery of tubal pregnancy has a 5% failure rate as indicated by incomplete removal of trophoblast. In one series of 321 cases treated conservatively at laparoscopy 7 needed repeat laparoscopy and 8 needed laparotomy resulting in salpingectomy. The purpose of conservative surgery is to increase the chance of future intrauterine pregnancy in these subfertile women. Linear salpingostomy gives 44% viable intrauterine pregnancies (cf with 33% after salpingectomy). Some series have shown almost 80% intrauterine pregnancy rate after linear salpingostomies, 25 to 30% of which aborted. Conservative surgery does not increase the possibility of repeat tubal pregnancy and subsequent tubal pregnancies are equally distributed in the two tubes. Conservative tubal surgery is advocated in unruptured tubal pregnancy less than 3 cm size, although some extend it up to 6 cm. Some cases of early rupture can have conservative surgery. It has no place if the patient does not desire future child-bearing. Only 17.2% of patients having more than 2 tubal pregnancies in the past beget a viable child. IVF gives them the

same chance and may be preferred to conservative surgery.

Some cases of tubal pregnancy can be treated by chemotherapy—Methotrexate 0.4 mg/kg daily for 5 days repeated every alternate week (Ichimoe *et al*) or Methotrexate 1 mg/kg with Leucovorin 0.1 mg/kg on alternate day given 4 times (Ory *et al*). Patients must be monitored by  $\beta$ -hcg and hematocrit daily till  $\beta$ -hcg disappears. In Ichimoes *et al*'s series of 23 cases 1 needed laparotomy for tubal rupture during treatment while 22 resolved. Nineteen patients were evaluated later and 10 of them showed tubal patency. Four had subsequent pregnancy 1 of which aborted. In Ory *et al*'s series of 6 cases the treatment failed in 1 who needed laparotomy for internal haemorrhage, while 2 of the remaining 5 had vaginal bleeding probably due to tubal abortion; one of the 2 needed blood transfusion. This treatment has other hazards like potential hepatic and bone marrow toxicity, possible genetic damage and risk of ending up in chronic ectopic. It should be restricted to early cases with  $\beta$ -hcg less than 10000 mIU/ml. Its indications are—cornual pregnancy, cervical pregnancy, persistent  $\beta$ -hcg after conservative surgery for tubal pregnancy, selected cases of tubal pregnancy following tubal microsurgery and ectopic pregnancy following hyperstimulation with gonadotrophins.

Lindblom *et al* used PG F<sub>2</sub> alpha in 9 cases. They injected 0.5-1.5 mg of PG F<sub>2</sub> alpha or 15 methyl PG F<sub>2</sub> alpha in the tubal gestation at diagnostic laparoscopy and a similar dose subcapsularly in the ovary containing corpus luteum. Only 1 needed the procedure to be repeated after 2 weeks because  $\beta$ -hcg levels did not drop adequately. Two patients followed by laparoscopy showed no new adhesions. This treatment can be employed for stable patients with  $\beta$ -hcg less than 500 mIU/ml and gestation size less than 2 cm. Use of RU-486 to interrupt tubal pregnancy looks very promising and safe. RU-486 is a synthetic 19-norsteroid with great affinity for progesterone receptors but little progestational action. It blocks the action of endogenous progesterone.

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