PELVIC TUBERCULOSIS AND INFERTILITY

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Introduction

A 29 year old lady with 10 years history of primary infertility was seen in BIRD infertility centre. She had normal menarche at the age of 12 years. Her periods were regular, but her flow had been scanty. She had bleeding for 6 days in a cycle of 28-30 days. She had signs of luteinization like breast tenderness and discomfort, mood changes and generalized oedema pre-menstrually. Mid cycle mucus and pain were present occasionally.

In her medical history, she was diagnosed to be hypothyroid 2 years ago and had been on replacement therapy.

She had an excision of a benign endometrial polyp carried out 5 years ago. She also had a laparoscopy carried out about 5 years ago which showed no pelvic abnormality and the tubes were reported to be patent to dye hydro-tubation.

The husband was 35 years of age. He had mumps without any clinical epididymo-orchitis at the age of 33. Clinical examination was normal. Semen analysis showed oligoteratozoospermia. Relevant investigations were carried out and appropriate treatment was given to improve sperm parameters.

The couple had various treatments for infertility for the past few years. These included several courses of ovarian stimulation by clomiphene citrate and human menopausal gonadotrophins and three attempts at intra-uterine insemination at various centres.

Investigation

The lady had an ESR of 60 mm in the 1st hour, with haemoglobin of 10.8 gm/dl. Anti-cardiolipin antibodies were normal whereas thyroid microsomal antibodies and antithyroglobulin antibodies were positive in the dilution of 1:1600 and 1:160 respectively. Her fasting serum insulin was 10.6 iu/ml. Serum FSH was 0.6 iu/ml, W 18 iu/ml and prolactin 3 2ng/ml. Thyroid hormone levels were within normal range. Because of raised ESPI, C-reactive protein and Mantoux test were done. CRP was raised to 4.92 units and MT was positive with induration of 24 mm. Pelvic ultrasound scan at day 12 showed a picture of bilateral polycystic ovaries and a thin endometrium with an endometrial thickness of 6 mm.

She was given low dose aspirin and metformin, which brought the thyroid antibody and serum insulin to normal levels.

A diagnostic laparoscopy showed a normal sized anteverted uterus. Both tubes were clubbed and beaded with hydosalpinx on both sides. Right ovary was hyperaemic with capillary network on its surface. Left ovary was shiny and pearly white. Uterosacral ligaments were normal and there were no pelvic adhesions.

On the basis of history, ultrasound findings of thin endometrium, strongly positive MT and laparoscopic findings, a diagnosis of pelvic tuberculosis was made and she was started on anti-tuberculous treatment.

After 9 months of treatment her menstruation had become normal. Her ESR had dropped to 14 mm in the 1st hour and an ultrasound scan on day 12 showed endometrial thickness of 9 mm and was trilaminar, indicating follicular development.

Anti-tuberculous treatment was stopped and it was decided to perform ICSI for the couple.

Pituitary down-regulation with Buserlin nasal spray was followed by ovarian stimulation by recombinant FSH and human menopausal gonadotrophins. Eighteen eggs were retrieved. ICSI was done with the husband's sperms. One blastocyst and one morula were transferred on Day 5 of the insemination. Three blastocysts were frozen. Luteal support was given by 600 mgs of progesterone pessaries daily and HCG 5,000 iu was given intra-muscularly at the day of embryo transfer and on the 3rd day. Pregnancy test on the 12th day showed BhCG of 51 miu/l. After 3 days it was 200miu/l.

The pregnancy has since progressed uneventfully and she is now well into the third trimester.

Discussion

It is well recognized that tuberculosis is an important cause of infertility. Although it has been reported as a causal factor in a number of studies, we believe that it is still very widely under-diagnosed.
The diagnosis of genital tuberculosis poses a dilemma. Endometrial curettings very infrequently yield positive cultur\(^3\). Although genital tuberculosis is said to be secondary to primary disease elsewhere, the primary focus is also usually dormant, sub-clinical or has been previously treated. Hence it is usually not possible to get a clue about the presence of extra-genital tuberculosis.

We based our diagnosis on the basis of history, a raised ESR, a positive Mantoux test, laparoscopic appearance of the tubes and ultrasound appearance of the endometrium.

Our patient had a history of scanty periods which is an expected symptom in genital tuberculosis. ESR measurement is routine in evaluation of patients at our centre. Patients with a raised ESR then undergo a series of investigations to look for pro-inflammatory causes. These tests include looking for various auto-antibodies and Mantoux test. We have found a very high incidence of raised ESR in our infertility patients and interestingly we have not achieved a single pregnancy in a patient with an ESR of >20 not explained by anaemia. More recently we have been doing Mantoux test in all of our patients with a clinical suspicion of tuberculosis or an unexplained raised ESR. Our results show a very high percentage of patients (>40%) with a positive Mantoux, which lends credence to our belief that tuberculosis is a very important cause of "unexplained" infertility.

Infertility is a presentation in a number of conditions which are present in early or subclinical stage. Examples include a number of autoimmune conditions and it can even be said of type 11 diabetes and insulin resistance, where infertility may be the first sign of something amiss.

We believe that if we rely on the presence of positive endometrial biopsy, a number of patients will remain undiagnosed. This fact has been recognized by other workers and a reasonable approach would be to base the diagnosis on the basis that we have used, i.e. history, ultrasound findin of a thin endometrium a positive Mantoux test and suggestive laparoscopic findings. Perhaps PCR\(^5\) will be a viable and useful option in the future.

References

1. Tripathy SN and Tripathy SN 2002 Infertility and pregnancy outcome in female genital tuberculosis Int. J Gynaecol obstet 76: 159-63


