Available online at www.sciencedirect.com
ScienceDirect
journal homepage: http://www.journals.elsevier.com/indian-journal-of-tuberculosis/

Original Article

Concomitant female genital tuberculosis and endometriosis

Jai Bhagwan Sharma [a,*], Manu Goyal [b], Sunesh Kumar [c], Kallol Kumar Roy [c], Eshani Sharma [d], Raksha Arora [e]

[a] Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India
[b] Senior Resident, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India
[c] Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India
[d] Senior Research Fellow, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi 110029, India
[e] Professor and Head, Department of Obstetrics and Gynecology, Santosh Medical College, Ghaziabad, Uttar Pradesh, India

ARTICLE INFO

Article history:
Received 18 September 2015
Accepted 17 January 2017
Available online xxx

Keywords:
Genital tuberculosis
Endometrioma
Pelvic adhesions
Laparoscopy
Laparotomy

ABSTRACT

Aims: To demonstrate an association between female genital tuberculosis (FGTB) and endometriosis.

Methods: A total of 16 women who underwent laparoscopy (12 cases) or laparotomy (4 cases) and were found to have female genital tuberculosis and endometriosis were enrolled in this retrospective study.

Results: The mean age and parity were 28.2 years and 0.2, respectively. Past history of tuberculosis was present in 75% of the women (pulmonary in 50%). Menstrual dysfunction (especially oligomenorrhoea and dysmenorrhoea), constitutional symptoms, infertility, abdominal pain and lump were the main complaints. Diagnosis of FGTB was made by positive acid-fast bacilli (AFB) on microscopy, culture of endometrial aspirate, positive polymerase chain reaction (PCR), histopathological finding of epitheliod granuloma or findings of TB on laparoscopy or laparotomy. Diagnosis of endometriosis was made by laparoscopy or laparotomy. Pelvic adhesions were seen in all women, whereas frozen pelvis was seen in 7 (43.7%) women. Surgery was performed, which was laparoscopic adhesiolysis in 12 (75%), drainage of endometrioma in 12 (75%), cystectomy in 8 (50%), and total abdominal hysterectomy with bilateral salpingo-oophorectomy in 4 (25%) cases. With more then one type of (surgery in many cases).

Discussion: Female genital tuberculosis and endometriosis may have similar manifestations and can co-exist.

1. Introduction

Tuberculosis remains a major public health problem globally, with 10.4 million new TB cases annually out of which 3.5 are women die.[1] Female genital tuberculosis (FGTB) is common in developing countries causing menstrual dysfunction especially oligomenorrhoea, infertility, chronic pelvic pain, abdominal pain, lump, with or without constitutional symptoms like anorexia, weight loss, fever and night sweats.[2–6] Incidence of

* *Corresponding author*. Tel.: +91 01126589665; fax: +91 11 26588641.
E-mail address: jbsharma2000@gmail.com (J.B. Sharma).

http://dx.doi.org/10.1016/j.ijtb.2017.01.006
0019-5707/

FGTB was found to be 24.5% in women seeking assisted reproduction in India.[7] FGTB is usually acquired from extra-genital TB, especially pulmonary TB or abdominal TB.[2,3] Fallopian tubes are affected in almost all cases (90–100%) followed by endometrium (50–80%), ovaries (20–30%), cervix (5–15%) and rarely vagina and vulva.[2,3] FGTB is an important cause of infertility in developing countries like India through tubal blockage, peritubal adhesions, abdominal, perihepatic adhesions (Fitz-Hugh–Curtis syndrome), endometrial atrophy and adhesions (Asherman's syndrome).[8–11] FGTB can cause tubo-ovarian masses and masquerade ovarian cancer causing major diagnostic dilemma, as CA-125 may be raised in both conditions.[12] Radiological modalities like CT scan MRI, PET may not be able to differentiate the two conditions.[13,14]

Endometriosis is another common gynecological condition manifesting as chronic pelvic pain, dysmenorrhoea, dyspareunia, infertility and abdominal or pelvic lumps from ovarian endometriomas and adhesions.[15–17] It usually needs laparoscopy for diagnosis and treatment when findings like brown spots, peritoneal defects, endometrioma and adhesions are observed. On laparoscopy in a case of TB, there may be tubercles, localised ascites, caseation nodules, shaggy areas and adhesions.[18] Biopsies can be taken from the representative areas. At laparoscopy, definitive surgery can also be preformed for endometriosis like fulguration of spots, adhesiolysis and drainage of endometrioma.[15–17]

2. Materials and methods

A total of 16 women who underwent diagnostic and operative laparoscopy (12 cases) or laparotomy (4 cases) for infertility, chronic pelvic pain and abdominal masses and were found to have concomitant female genital tuberculosis and endometriosis over the last three years (January 2010–December 2012) in the authors' unit at All India Institute of Medical Sciences, New Delhi were enrolled in this retrospective study. The study was part of an ongoing study on diagnosis and management of female genital tuberculosis, for which ethical clearance of the institute was obtained. Proper informed consent was obtained from all the cases. Detailed history was taken from all women for constitutional symptoms like fever, weight loss, anorexia, night sweats, menstrual dysfunction, infertility, abdominal and pelvis pain and past history of TB. General physical examination for pallor, jaundice, edema, lymphadenopathy, cardiovascular, chest examination, abdominal examination, speculum and bimanual vaginal examination were performed in all women.

All women underwent basic investigations for their infertility and presenting symptoms in the form of complete hemogram, leucocyte count, erythrocyte sedimentation rate (ESR), Mantoux test, urine examination, blood sugar, husband semen analysis, serum Follicle Stimulating Hormone (FSH) and Luteinising hormone (LH). Ultrasound, CT scan or MRI was done in indicated cases. Endometrial sampling was done on menstrual day 21 in all women. One part of the sample was immersed in saline and sent for AFB microscopy, culture and PCR while second part of sample was immersed in formalin and sent for histopathological examination.

All women underwent definitive surgery for diagnosis and therapy depending upon their symptoms, fertility status and findings on laparoscopy and laparotomy. For infertility patients, conservative surgery was performed as far as possible. For endometriosis, drainage of endometrioma followed by removal of cyst wall was done. Adhesiolysis was done to free fallopian tubes and ovaries. Endometriotic lesions were cauterised with bipolar cautery. In few cases, where laparotomy was done for chronic abdominal and pelvic pain and in the absence of infertility, complete pelvic clearance in the form of total abdominal hysterectomy and bilateral adnexectomy was performed as definitive treatment for endometriosis.

All women diagnosed with FGTB were given free antituberculous therapy as per World Health Organisation, Directly Observed Treatment, Shortcourse (DOTS) strategy, under Revised National Tuberculosis Control Programme (RNTCP) of Government of India. It recommends 4 drugs (isoniazid, rifampicin, pyrazinamide and ethambutol) for 2 months followed by 2 drugs (isoniazid and rifampicin) for next 4 months. All women were regularly followed up to ensure compliance. Routine pyridoxine was not given and liver function test were only done if clinically indicated. Women in whom residual lesions of endometriosis were still present after laparoscopic surgery were given GnRH analogues (leupride depot) 3.75 mg sub-cutaneously every 28 days for 3 doses.

The findings on laparoscopy and laparotomy were noted. The data were analysed and appropriate statistical analysis was done using Fisher's exact and chi-square test with p value of <0.05 taken as significant. During the same period, we collected total cases of endometriosis and tuberculosis diagnosed on laparoscopy and laparotomy in the unit to find out the prevalence of co-existent FGTB and endometriosis.

3. Results

The characteristics and presentation of women in the study are shown in the Table 1. The mean age and parity were 28.2 (3.75) years and 0.2, respectively. Past history of TB could be obtained in the 12 (75%) women with pulmonary TB in 8 (50%) women. Menstrual dysfunction was common along with constitutional symptoms. Dysmenorrhoea and dyspareunia were the main complaints seen in 14 (87.5%) women. All women had abdominal pain and mass, whereas 12 (75%) had infertility.

Various methods to diagnose FGTB and endometriosis are shown in Table 2. Positive PCR was present on endometrial sampling in all cases. Findings of FGTB and endometriosis on laparoscopy were seen in all 12 (100%) cases in whom laparoscopy was performed, whereas FGTB and endometriosis on laparotomy were seen in all 4 cases in whom laparotomy was performed. Various surgeries performed are also shown in Table 2; the type of surgery was laparoscopic adhesiolysis in 12 (75%) women, drainage of endometrioma in 12 (75%) women and ovarian cystectomy in 8 (50%) women while laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed in 4 (25%) women.

Please cite this article in press as: Sharma JB, et al. Concomitant female genital tuberculosis and endometriosis, *Indian J Tuberc.* (2017), http://dx.doi.org/10.1016/j.ijtb.2017.01.006