International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2018; 2(2): 75-76
Received: 13-01-2018
Accepted: 14-02-2018

Dr. Lata Rajoria
Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India

Dr. Krishna Gurjar
Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India

Dr. Kusumlata Meena
Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India

Dr. Neha Sharma
Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India

Correspondence
Dr. Lata Rajoria
Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur, Rajasthan, India

Diagnosis of genital tuberculosis in infertile females

Dr. Lata Rajoria, Dr. Krishna Gurjar, Dr. Kusumlata Meena and Dr. Neha Sharma

Abstract
Objectives: To evaluate genital TB among infertile females by various diagnostic modalities. To find out diagnostic efficacy of USG, tuberculin test, nucleic acid amplification test, hysteroscopy & laproscopy for diagnosis of genital tuberculosis.
Method: 100 Infertile females fullfilling the inclusion exclusion criteria were included.
Conclusion: Study reveals that endoscopic evaluation is an important diagnostic tool, but nither confirm nor exclude genital TB. The routine endometrial TB PCR has great potential in improving diagnosis of genital tuberculosis.

Keywords: Genital tuberculosis, TB PCR, laproscopy, hysteroscopy

Introduction
- Infertility is defined as inability of a couple to conceive even after 1 year of unprotected and regular intercourse
- India, TB endometritis /salpingitis = 4-9 % of all infertility cases
- Female genital TB = 10-15 times more common in developing countries
- Diagnosis of genital tuberculosis is difficult as
  - Most cases are asymptomatic &
  - Even symptomatic cases have non specific symptoms.
- No accepted guidelines for diagnosing extra-pulmonary TB in view of low sensitivity of bacteriological tests and poor specificity of most immunological and serological investigations.
- Surgical methods are frequently required to obtain specimens for bacteriological studies

Aim and Objective
- To evaluate tuberculosis in infertile patients through various diagnostic modalities.
- To find out diagnostic efficacy of USG, tuberculin test, nucleic acid amplification test, hysteroscopy, laproscopy and histopathology for diagnosis of genital tuberculosis.

Material and Methods
- **Study Design:** Observational type of Study.
- **Study Duration:** from Feb 2016 –Oct 2017
- **Sample Size:** 100 subjects

Calculated at 95% CL and Precision 10%, assuming concordance of 42.5% results between endoscopic diagnosis of tuberculosis & PCR results (Asha Baxi *et al.* J Obstet gynaecol India. 2011 jun ; 61(3):301-306).

Inclusion Criteria
- Infertile women attending Gyane OPD willing to participate
- Age - 20-35 yrs

Exclusion Criteria
- Acute PID.
- Immuno-compromised state

Results

Table 1: Socio-Demographic Characteristics In Relation To Genital Tb (Pcr Results)

Variable	Sub group	PCR negative	PCR positive	P value
Age Group	< 25 years	26 (66.7%)	13 (33.3%)	0.829
	25-29 years	24 (70.6%)	10 (29.4%)	
	≥ 30 years	17 (73.9%)	6 (26.1%)	
Religion	Hindu	62 (75.6%)	20(24.4%)	0.060
	Muslims	9 (50%)	9 (50%)	
Parity	Nullipara	45 (66.1%)	23 (33.9%)	0.189
	Parity≥1	26 (81.2%)	6 (18.8%)	
Infertility	Primary	44 (65.6%)	23 (34.4%)	0.150
	Secondary	27 (81.8%)	6 (18.2%)	

Table 2: Mantoux Test results in relation to PCR results

Mantoux Test	PCR positive	PCR negative	Total
Positive	16	15	31
Negative	13	56	69
Total	29	71	100

Diagnostic parameter	Value	95% CL
Sensitivity	55.2	35.7 – 73.6
Specificity	78.9	68.6 – 87.7
PPV	51.6	38 - 65
NPV	81.2	73.9 – 86.8
Diagnostic Accuracy	72	62.1 – 80.5

Table 3: USG results in relation to PCR results

USG suspicion of TB	PCR positive	PCR negative	Total
Positive	13	23	36
Negative	16	48	64
Total	29	71	100

Diagnostic parameter	Value (%)	95% CI (%)
Sensitivity	44.8	26.5– 64.31
Specificity	67.6	55.4 – 78.5
PPV	36.1	25.1– 48.9
NPV	75	67.6– 81.2
Diagnostic Accuracy	61	50.7– 70.6

Table 4: Diagnostic Hystero-Laproscopy in relation to PCR results

Hysterolaproscopic suspicion of TB	PCR Positive	PCR Negative	Total
Positive	23	63	86
Negative	06	08	14
Total	29	71	100

Diagnostic parameter	Value (%)	95% CI (%)
Sensitivity	79.3	60.3– 92
Specificity	25.4	15.8– 37.1
PPV	30.3	25.6– 35.3
NPV	75	57– 87.2
Diagnostic Accuracy	41	31.3- 51.3

Table 5: Histo-pathology in relation to PCR results

Histopath suspicion of TB	PCR positive	PCR negative	Total
Positive	4	3	7
Negative	25	68	93
Total	29	71	100

Diagnostic parameter	Value (%)	95% CI (%)
Sensitivity	13.8	3.9- 31.7
Specificity	95.8	88.1– 99.1
PPV	57.1	24.1– 84.8
NPV	73.1	70 - 76
Diagnostic Accuracy	72	62.1 – 80.5

Discussion

- Previous studies have found a strong association of genital TB with tubal infertility.
- Yang Y *et al*. Concluded laparoscopy as a very valuable tool for etiological diagnosis of tubal infertility
- Shaheen et - genital TB as diagnosed by histopathologic and culture found 7% prevalence among OPD patients
- Schluger *et al*. correlated PCR results with AFB bacilli smears, cultures, and clinical histories in 65 patients and found PCR to be highly sensitive and specific in diagnosis of TB infection.
- The PCR test has been extensively studied and data show 87-100% sensitivity and 92-99.8% specificity.

Conclusion

- Results of present study prove that endoscopic evaluation is undoubtedly a valuable tool in diagnosing genital TB but by itself can neither confirm nor exclude genital TB.
- Routine use of PCR assays in addition to clinical and endoscopic evaluation provides great potential in improving diagnosis of genital TB especially in countries where TB is endemic.

Reference

1. Asha Baxi. Assessment of endometrial TB PCR results with laproscopic and hysteroscopic features. J Obstet gynecol India. 2011; 61(3):301-306.
2. Infertility and fallopian tube lesions. Chinese J Obstet Gynaecol. 1996; 31(6):327-9.
3. Shaheen R, Subhan F, Tahir F. Epidemiology of genital tuberculosis in infertile population. J Pak Med Assoc. 2006; 56(7):306-9.
4. Schluger NW, Kinney D, Harkin TJ. Clinical utility of the polymerase chain reaction in the diagnosis of infections due to Mycobacterium tuberculosis. Chest. 1994; 105(4):1116-21.