Ten best papers

1. CORONIS Collaborative Group, Abalos E, Addo V, Brocklehurst P, El Sheikh M, Farrell B, Gray S, Hardy P, Juszczak E, Mathews JE, Masood SN, Oyarzun E, Oyiek J, Sharma JB, Spark P Caesarean section surgical techniques (CORONIS): a fractional, unmarsked, randomized controlled trial. Lancet. 2013 Jul 20;382(9888):324-48

CORONIS was a pragmatic international 2×2×2×2×2 non-regular fractional, factorial, unmasked, randomised controlled trial that examined five elements of the caesarean section technique in intervention pairs. CORONIS was undertaken at 19 sites in Argentina, Chile, Ghana, India, Kenya, Pakistan, and Sudan. Each site was assigned to three of the five intervention pairs: blunt versus sharp abdominal entry; exteriorisation of the uterus for repair versus intra-abdominal repair; single-layer versus double-layer closure of the uterus; closure versus non-closure of the peritoneum (pelvic and parietal); and chromic catgut versus polyglactin-910 for uterine repair. Pregnant women were eligible if they were to undergo their first or second caesarean section through a planned transverse abdominal incision. Women were randomly assigned by a secure web-based number allocation system to one intervention from each of the three assigned pairs. All investigators, surgeons, and participants were unmasked to treatment allocation. The primary outcome was the composite of death, maternal infectious morbidity, further operative procedures, or blood transfusion (>1 unit) up to the 6-week follow-up visit. This paper is of great public health importance as caesarean is a common operation.

2. Abalos E, Addo V, Brocklehurst P, El Sheikh M, Farrell B, Gray S, Hardy P, Juszczak E, Mathews JE, Naz Masood S, Oyarzun E, Oyieke J, Sharma JB, Spark P Caesarean section surgical techniques: 3 year follow-up of the CORONIS fractional, factorial, unmasked, randomised controlled trial. CORONIS collaborative group, Lancet. 2016 Jul 2;388 (10039):62-72.

The CORONIS trial was a pragmatic international 2 × 2 × 2 × 2× 2 non-regular fractional, factorial, unmasked, randomised controlled trial done at 19 sites in Argentina, Chile, Ghana, India, Kenya, Pakistan, and Sudan. Pregnant women were eligible if they were to undergo their fi rst or second caesarean section through a planned transverse abdominal incision. Women were randomly assigned by a secure web-based allocation system to one intervention from each of the three assigned pairs. All investigators, surgeons, and participants were unmasked to treatment allocation. In this follow-up study, we compared outcomes at 3 years following blunt versus sharp abdominal entry, exteriorisation of the uterus for repair versus intra-abdominal repair, single versus double layer closure of the uterus, closure versus nonclosure of the peritoneum, and chromic catgut versus polyglactin-910 for uterine repair. This paper is of great public health importance as caesarean is a common operation.

3. ***Sharma JB, Sharma S, Sharma E, Dharmendra S, Singh S. Immune disturbances in female genital tuberculosis and latent genital tuberculosis. Am J Reprod Immunol. 2023 Feb;89(2):e13632***

Female genital tuberculosis (FGTB), an important clinical sub-type of extra-pulmonary tuberculosis (EPTB) is responsible for about 10% cases of infertility in India. Both FGTB and latent genital tuberculosis (LGTB) can cause infertility through blockage of fallopian tubes and through altered uterine endometrial receptivity. Various immune disturbances are observed in FGTB and LGTB like growth factors and cytokines which inhibit implantation and several inflammatory signaling pathways like mitogen activated protein kinase (MAPK), natural killer (NK) cells, nuclear factor kappa-B (NF-KB), tumor necrosis factor (TNF), and toll like receptors (TLR) signaling are dysregulated. These altered immune factors and pathways may be detected in the endometrial biopsies at the early stages of disease before permanent damage. Prompt and adequate treatment with the four anti-tubercular drugs

(rifampicin [R], isoniazid [H], pyrazinamide [Z], and ethambutol [E]) can increase pregnancy rates in some of these women. Assisted reproduction especially in-vitro fertilization and embryo transfer may be required for some women. Inflammatory pathways identified from the gene profiling have enabled development of potential biomarkers for early diagnosis of FGTB. Immunomodulation and novel biotechniques like stem cell transplantation, nanoparticles and host directed therapies are being tried in selected patients of FGTB and LGTB with promising results.

4. Sharma JB, Sharma SK, Dharmendra S, Singh UB, Kumar S, Roy KK. Laparoscopic evaluation of female genital tuberculosis in infertility: An observational study. Indian J Med Res. 2023 Feb-Mar;157(2&3):183-191.

This was a cross-sectional study on 374 cases of diagnostic laparoscopy performed on FGTB cases with infertility. All patients underwent history taking and clinical examination and endometrial sampling/biopsy for acid-fast bacilli, microscopy, culture, PCR, Gene Xpert (only last 167 cases) and histopathological evidence of epithelioid granuloma. Diagnostic laparoscopy was performed in all the cases to evaluate the findings of FGTB. Endometrial biopsy was positive for AFB microscopy in 4.8 per cent, culture in 6.4 per cent and epithelioid granuloma in 15.5 per cent. Positive peritoneal biopsy granuloma was seen in 5.88 per cent, PCR in 314 (83.95%) and GeneXpert in 31 (18.56%, out of last 167 cases) cases. Definite findings of FGTB were seen in 164 (43.86%) cases with beaded tubes (12.29%), tubercles (32.88%) and caseous nodules (14.96%). Probable findings of FGTB were seen in 210 (56.14%) cases with pelvic adhesions (23.52%), perihepatic adhesions (47.86%), shaggy areas (11.7%), pelvic adhesions (11.71%), encysted ascites (10.42%) and frozen pelvis in 3.7 per cent of cases. The finding of this study suggests that laparoscopy is a useful modality to diagnose FGTB with a higher pickup rate of cases. Hence it should be included as a part of composite reference standard.

5. ***Sharma JB. JB Sharma's white cotton ball sign: A new laparoscopic sign in abdominopelvic tuberculosis. J Minim Access Surg. 2023 Jan 9. doi: 10.4103/jmas.jmas_227_22***

Abdominopelvic tuberculosis (TB) is a variant of extra-pulmonary TB causing significant morbidity, including infertility. Results of 87 cases of diagnostic laparoscopy in cases of abdominopelvic TB diagnosed on composite reference standard (CRS) for demonstration of new laparoscopic white cotton ball sign are presented. Positive polymerase chain reaction was seen in all cases while definitive abdominal pelvic TB was seen in 35 (40.1%) cases and probable findings in 42 (48.27%) cases. A new laparoscopic white cotton ball sign (resembling a large white cotton ball) was observed in 5 (5.74%) cases and biopsy from 3 showed it to be epithelioid granulomas positive. Demonstration of a new white cotton ball sign on laparoscopy seems to be a useful finding in abdominal pelvic TB.

6. ***Sharma JB, Dharmendra S, Jain S, Sharma SK, Singh UB, Soneja M, Sinha S, Vanamail P Evaluation of Gene Xpert as compared to conventional methods in diagnosis of Female Genital Tuberculosis. .Eur J Obstet Gynecol Reprod Biol. 2020 Dec;255:247-252.***

It was a prospective study conducted over 167 cases of infertile female genital tuberculosis (FGTB) diagnosed on composite reference standard (CRS) (smear for AFB, histopathological evidence of epithelioid granuloma or definite or possible findings of tuberculosis on laparoscopy). All women underwent endometrial biopsy for AFB microscopy, culture, gene Xpert, PCR and histopathology) and laparoscopy and hysteroscopy for diagnosis and

prognostication of disease. The results of Gene Xpert were compared with conventional methods in detection of FGTB. The trial showed lower sensitivity (30%) but very high (100%) specificity of Gene Xpert in diagnosis of FGTB suggesting that Gene Xpert should be part of composite reference standard (CRS).

7. Sharma JB, Kumar R , Singh U , Kumari A , Dharmendra S, Sachani H. Pre -treatment and post treatment positron emission tomography–computed tomography (PET–CT) to evaluate treatment response in tuberculous Tubo-Ovarian masses. European Journal of Obstetrics & Gynecology and Reproductive Biology (2021);264:128-134

It's a Prospective study on 47 confirmed cases of FGTB with infertility having TO masses. All patients were subjected to 18F-FDGPET/CT to see the glucose uptake by the TO mass and extent of the disease. Category I treatment under DOTS was given for 6 months. All underwent follow-up of PET/CT to see the response to ATT. Results of pre ATT PET/CT were compared with post ATT PET/CT. If the repeat PET CT after completion of ATT shows persistent mass with increased FDG uptake suggesting persistent disease or resistant disease necessitating further or MDR treatment.

8. Sharma JB. Sharma's parachute sign a new laparoscopic sign in abdomino pelvic tuberculosis. Indian J Tuberc. 2021 Jul;68(3):389-395.

The new sign "Sharma's parachute sign" appears to be a useful laparoscopic sign in abdominopelvic TB in which ascending colon adherent to anterior abdominal wall along with its mesocolon resembling an open parachute in a case of abdominopelvic TB. It is of immense operative significance as putting a second port of laparoscope on right side can cause injury to ascending colon. Hence, second port on case of FGTB should be put under direct laparoscopic supervision preferably on left side to prevent bowel injury.

9. Sharma JB, Singh N, Dharmendra S, Singh UB, P V, Kumar S, Roy KK, Hari S, Iyer V, Sharma SK. Six months versus nine months anti-tuberculous therapy for female genital tuberculosis: a randomized controlled trial. Eur J Obstet Gynecol Reprod Biol. 2016;203:264- 73.

This RCT was funded by Central TB Division, MOHFW, Government of India. The trial has proven efficacy of six months anti-tuberculous therapy to be equal to nine months therapy. It was a randomized controlled trial in a tertiary referral center teaching institute on 175 women presenting with infertility and found to have female genital tuberculosis on clinical examination and investigations. There was no difference in the complete clinical response rate (95.3% vs 97.7%, p = 0.441) between 9-months and 6-months groups. Hence, there was no difference in complete cure rate, recurrent rate and pregnancy rate for either 6-months or 9-months of intermittent directly observed treatment short course anti-tuberculous therapy in female genital tuberculosis. The RCT changed practice all over the world and established the efficacy of 6 months therapy and thus saved many thousands of women from longer therapy with toxic medicines as before it women were often given longer treatments for 9 months to 1 year.

10. Sharma JB, Sneha J, Singh UB, Kumar S, Roy KK, Singh N, Dharmendra S, Vanamail P. Comparative Study of Laparoscopic Abdominopelvic and Fallopian Tube Findings Before and After Antitubercular Therapy in Female Genital Tuberculosis With Infertility. J Minim Invasive Gynecol. 2016;23:215-22.

To study the effect of anti-tubercular treatment (ATT) on the laparoscopic abdominopelvic and fallopian tube findings in female genital tuberculosis (FGBT). Fifty women with infertility and diagnosed with FGTB on laparoscopy, histopathology findings, or endometrial sampling (acid-fast bacilli culture, granuloma on histopathology, positive polymerase chain reaction).

Diagnostic laparoscopy in all women diagnosed with FGTB before and after a 6-month course of ATT. Thus, ATT improves laparoscopic findings in FGTB with infertility. However, advanced fibrotic lesions (eg, pelvic and

perihepatic adhesions, bilateral blocked tubes) did not improve with ATT. This study gave the important course of disease with anti-tubercular therapy. This was also of public health importance and helped in prognostication of disease and further planning of treatment regarding ovulation induction (if tubes are patent), in vitro fertilization and embryo transfer (IVF-ET) if tubes are blocked and surrogacy or adoption if endometrium is destroyed (severe grades of Asherman's Syndrome).