The purpose of DHL is to detect tuberculosis early, when it has the best chance of being cured, and begin ATT treatment.

**DHL suggestive of early stage of disease**

* During DHL cavity and tubes are well enough after completion of ATT consider fertility treatment according to couple parameter as in general population. Not always IVF needed and natural intercourse, ovulation induction, IUI can also be used.
* During DHL if there was evidence of exosalpingitis and endosalpingitis or gross involvement of tubes after ATT is better to consider IVF specially if there was history of long duration of infertility and history of menstrual irregularity.

**DHL suggestive of late stage of disease**

* Consider IVF after completion of ATT in this population, but know that reproductive success rates are comparatively low even after IVF
* Consider Relook Hysteroscopy after completion of ATT: if there was evidence of intrauterine adhesions, Shrunken uterine cavity, caseation, pale and scanty endometrium

**Early (inflammatory) stage of tuberculosis**

After completion of anti-tubercular therapy reproductive outcomes not inferior to the general background population after IVF or other sub-fertility treatment

Investigations

Lack of point of care diagnostic tests

Poor sensitivity of diagnostic tests

Paucibacillary

Asymptomatic

Misdiagnosis

All of these investigations are often negative in women presenting with infertility who are often healthy otherwise. Moreover, if one relies on these investigations female genital tuberculosis may be missed and their treatment to start anti tubercular therapy may be delayed specially in sub-fertile women for whom main goal is to conceive.

**Confirmed tuberculosis**

Positive microbiological findings

* Mycobacterium tuberculosis culture (LJ medium, BACTEC)
* BACTEC-MGIT 960 system (Mycobacterium Growth Indicator Tube)
* On histopathological examination epithelioid granuloma or granulomatous disease, giant cell, lymphocytosis
* AFB microscopy using Ziehl–Neelsen (ZN) staining, Auramine and rhodamine fluorescent dyes with LED microscopy

Endometrial aspirate or biopsy or peritoneal or suspected tubercular lesion biopsy. Endometrial aspiration is performed on a patient who has avoided becoming pregnant by abstaining (or contraception) throughout the current menstrual cycle (days 21-24 of the normal cycle).

TB-PCR is not utilised to provide a definitive diagnosis of FGTB or to initiate anti-tubercular treatment, but rather as a tool to further explore for FGTB utilising endoscopic methods in clinical practise. It may falsely read as positive for both living and non-living microorganisms. As a result, it is prone to being false-positive as well as -negative.

**Probable tuberculosis**

* Clinical: menstrual irregularities; low grade chronic evening fever; Features of pelvic inflammatory disease like pelvic pain restricted uterine mobility bilateral adnexal mass
* X ray chest for any active or old healed pulmonary TB
* Laboratory tests: Tubercular skin test (TST) Mantoux test: a value of > 10 mm may give some clue but is not reliable; Fluid lymphocytosis (more than 50%); QuantiFERON-TB Interferon gamma release assay (IGRA) has been approved by US FDA for diagnosis of latent TB and is available as Quantiferon TB-Gold which is done on whole blood
* Hysterosalpingography: It is avoided in acute illness to prevent a worsening of symptoms. Tubes may be obstructed (often a cornual block), the tubes may have the appearance of a tobacco pouch, the tubes may be beaded, or the uterine cavity may have filling deficiencies, all of which are diagnostic of FGTB.
* Ultrasound: Tubal dilatation with septae owing to tubal mucosal thickening causes a cogwheel look, also known as hydrosalpinx. Endometrial pictures from tuberculous endometritis are often thin and diffuse, with ragged margins.
* Computerized tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET): For tuberculous tubo-ovarian masses, one of the three options is appropriate. For tuberculous lymphadenitis in particular, MRI offers superior resolution. Increased FDG uptake on PET-CT is indicative of tuberculous tubo-ovarian lesions.

**Late (Fibrotic) stage of tuberculosis**

After completion of anti-tubercular therapy reproductive outcome is often poor even after IVF and after variety of adjuvant therapies

Consider starting **anti tubercular therapy (ATT)**

(WHO or National guideline)

**Diagnostic Laparoscopy and Hysteroscopy (DHL)**

* Give a comprehensive picture stage of the disease and what reproductive organs are involved
* On the basis of findings anti tubercular therapy can be started
* Prognosticate the patient condition and future fertility
* Helps in patient counselling
* Can direct the treatment plan (If tubes are damaged by tuberculosis after completion of anti-tubercular therapy IVF should be done)
* Can assess the Uterine cavity and the tubal factor in the same setting (major reason for infertility due to tuberculosis)

**Women presented with Infertility**

**Suspicion of female genital tuberculosis**

* Woman belongs to or migrated from area where tuberculosis is prevalent
* Long duration of infertility
* Unexplained infertility
* Past history of tuberculosis
* History of tuberculosis in family member or relatives
* History of recurrent miscarriages
* History of menstrual irregularity
* History of pelvic inflammatory disease not respondent to conventional treatment
* History of persistent white discharge not responding to conventional therapy