SPECIFIC INFECTIONS OF THE FEMALE GENITAL TRACT

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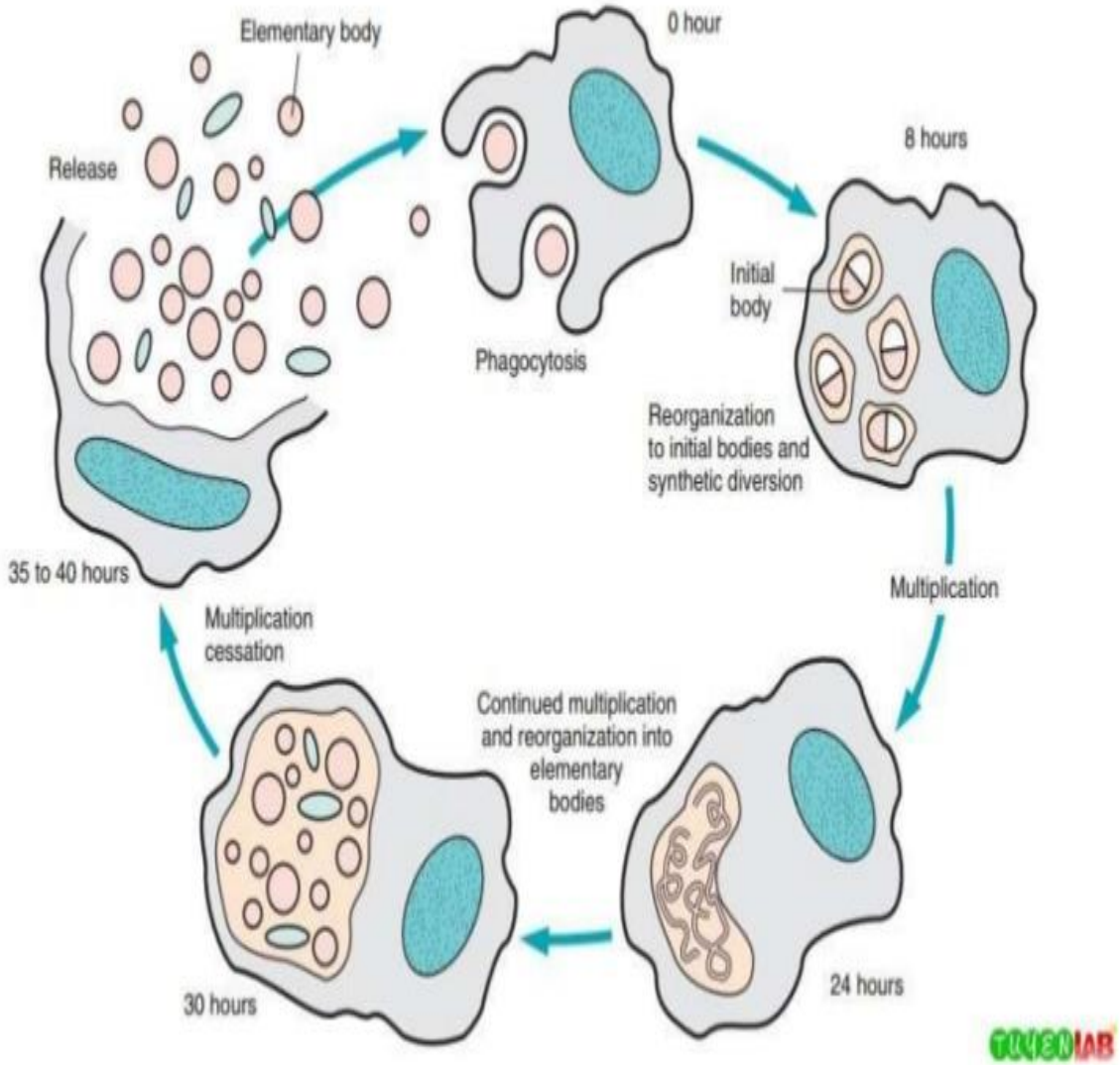
1- Chlamydia Trachomatis

* It is an obligate intracellular small bacterium pathogen of the columnar & transitional epithelium of the urethra & endocervix with extension endometrium, endosalpinx & pelvic peritoneum.

*It is the commonest bacterial STI in industrialized countries.

* **The infectious particles** are the elementary bodies that infect columnar epithelial cells of the genital tract. The cervix is the usual initial site of infection.

LIFE CYCLE


Elementary body
0 hour
Release
8 hours
Initial body
Phagocytosis
Reorganization to initial bodies and synthetic diversion
35 to 40 hours
Multiplication
Multiplication cessation
Continued multiplication and reorganization into elementary bodies
30 hours
24 hours

(Clinical Significance)

- Women: >50% asymptomatic.
- MP vaginal discharge (30%), postcoital or intermenstrual bleeding;
- Major cause of pelvic pain and infertility in women.
- PID Is the most serious complication of untreated chlamydia T infection-abdominal pain, fever, urethral syndrome.
- Bartholinitis

(Clinical Significance)

- **Men:** Usually asymptomatic. May have urethral syndrome and/or urethral discharge. Send urethral swab for ELISA ± MSU to confirm diagnosis.
- **Neonate:** Conjunctivitis, pneumonia, pharyngitis, otitis media-fl affected mothers have affected babies.

DIAGNOSIS

- ***Examination:*** ***Mucopurulent cervicitis, hyperaemia and oedema of the cervix ± contact bleeding, tender adnexae, cervical excitation.***
- ***For diagnosis*** ***Send endocervical swab for ELISA ± MSU to confirm diagnosis. PCR is more sensitive but expensive. Urine samples are used for screening asymptomatic women.***
- ***A direct flourescent antibody test*** ***can be performed on cervical smears.***
- ***Serological tests*** ***are not performed routinely in the diagnosis of chlamydial infection. Serum antibodies are not present in all infected persons.***

Screening

- Chlamydia is a preventable cause of infertility, ectopic pregnancy and PID. Screening ↓ prevalence- and incidence of PID.

Management

- Doxycycline 100mg bd for 1wk.
- Azithromycin lg po as a single dose is an alternative which ensures compliance.
- Ofloxacin 400 mg / day for 7 days.
- During pregnancy /breast feeding-erythromycin 500mg qds 2wks or azithromycin 1 gm as a single dose. ..

2- Genital Tuberculosis

* TB remains a major health problem in many developing countries including Egypt.

* Genital TB is almost secondary.

***The mode of spread** is usually **hematogenous**. **Lymphatic** spread may occur from an intra-abdominal or peritoneal focus.

The tubes are **the initial site & the infection** tends to localise first in the **mucosa** with subsequent dissemination to other genital organs & peritoneum. So, the tubes are affected in 90-100% of cases. The endometrium is involved in up to 80% of cases & the ovaries in 20-30%

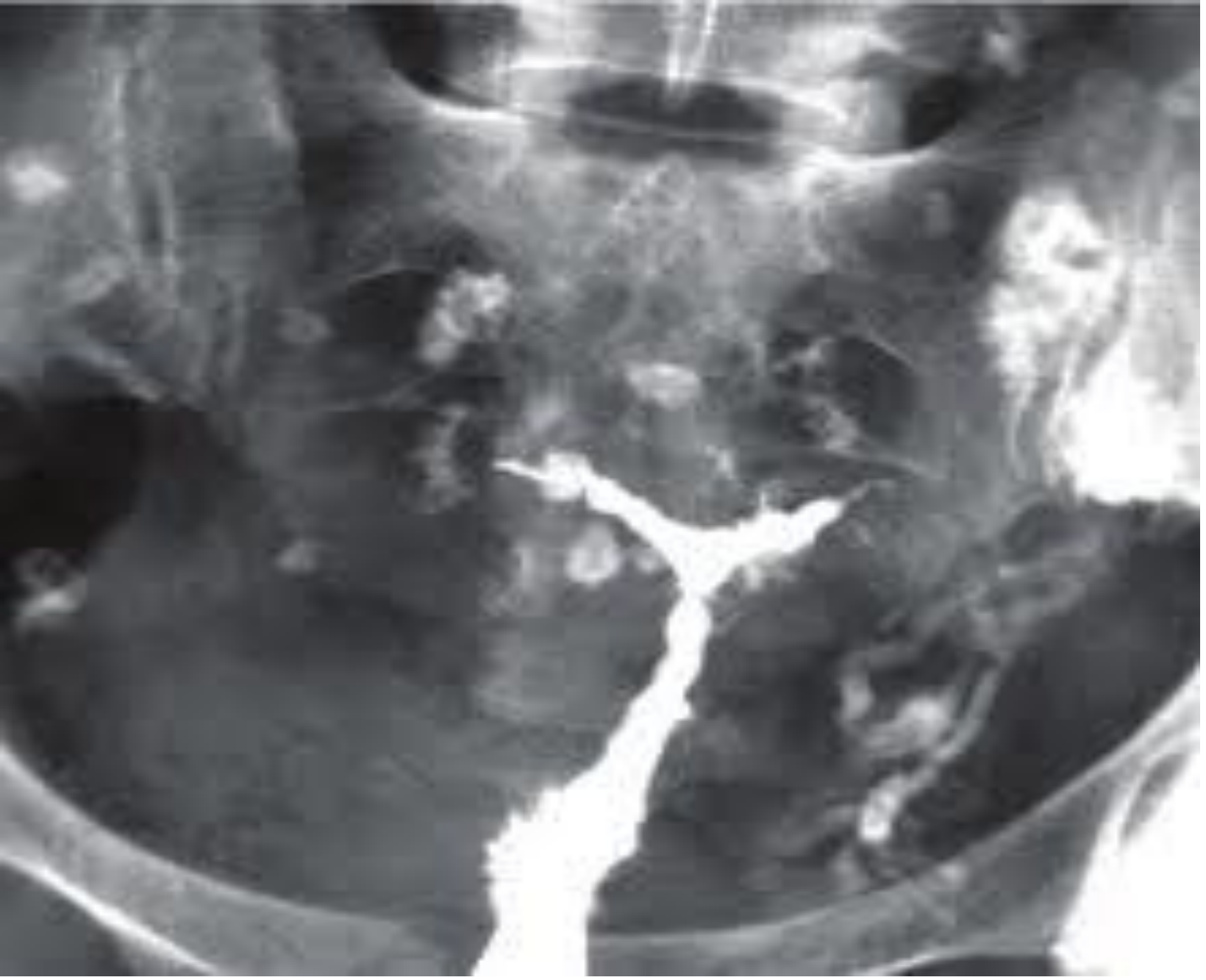
-Bilateral tubal affection is the rule with more prominent involvement of the ampullary portion. The tubes may remain patent with everted fimbria (Tobacco pouch appearance)

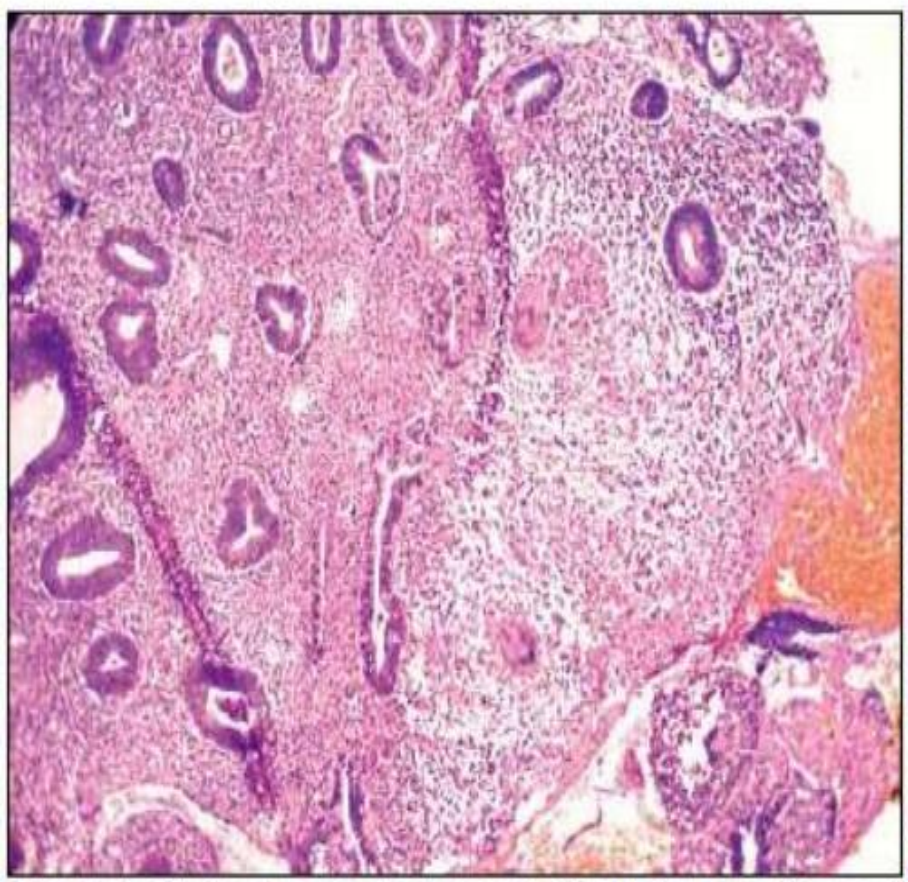
Genital Tuberculosis
(Clinical presentations)

1-Infertility: is the most common initial presentation(50% of cases) . It is primary in 85% of cases.

Examination findings are normal in many women, but an adenxal mass or fixation of the pelvic organs may be detected.

Endometrial biopsy, HSG & laparoscopy are needed for the diagnosis.





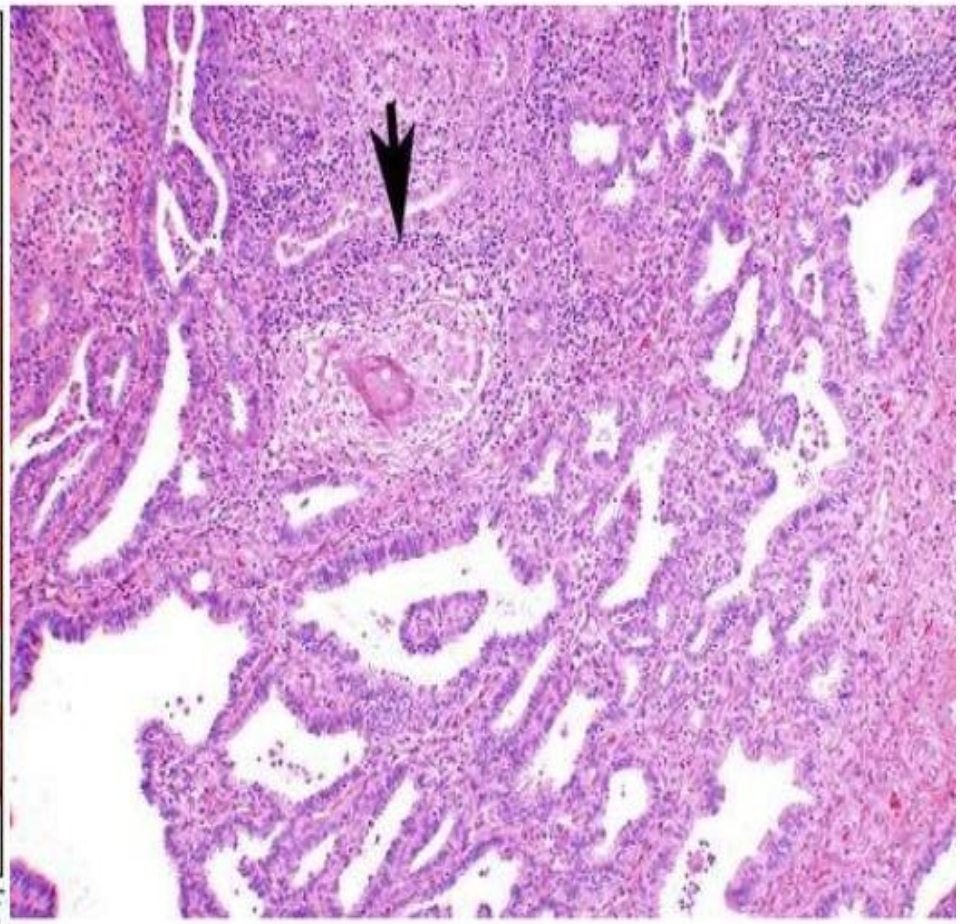


Figure 1: Photomicrograph showing epithelioid granulomas of tuberculosis in the proliferative endometrium. Both Langhans and foreign body type of giant cells are also present (H&E, x10).

Genital Tuberculosis
(Clinical presentations)

2-Menstrual disturbances: in the form of amenorrhea or oligohypomenorrhea (Why?)

3- Chronic pelvic pain & adenxal masses (25-50%)

4- TB peritonitis & ascites.

TB of the lower genital tract

- Rare and frequently ulcerative.
- TB ulcers are indolent, and superficial with undermined edge , soft base & ischemic margin.

*Hypertrophic lesions are rare . They bleed easily simulating cancer.

Genital Tuberculosis (Treatment & prognosis)

Two or more antituberculous are used for up to 2 years.

The chance for pregnancy is poor even after IVF or ICSI

3-Bilharziasis (Schistosomiasis) of the female genital tract

*Relatively uncommon.

*Lower genital tract (vulva, vagina, cervix) are more commonly affected than upper genital tract (body of the uterus, fallopian tubes, ovaries and pelvic peritoneum) .

Causative Organism

*The disease is caused by a bisexual nematode _Schistosoma- that inhabit the vascular system of man.

*The rich communication between the vesical venous plexus (where the females of S. hematobium -which inhabit the vascular system of the urinary tract- deposit their eggs) & the vaginal venous plexus → allowing some worms and ova ofS.hematobium to reach the female genital tract .

The anastomosis between the hemorrhoidal venous plexus (where the females of S. mansoni-which has a habitat in the portal circulationt- deposit their eggs) & the uterovaginal venous plexus → carrying some S.mansoni ova to the femalethe genital tract.

Clinical picture

*Female genital schistosomiasis (FGS) is a manifestation mainly of *S. haematobium* infection.

*The patient is usually from a rural area & gives a history of contact with water ditches and drains. There can be symptoms of urinary bilharziasis.

Bilharziasis of the vulva

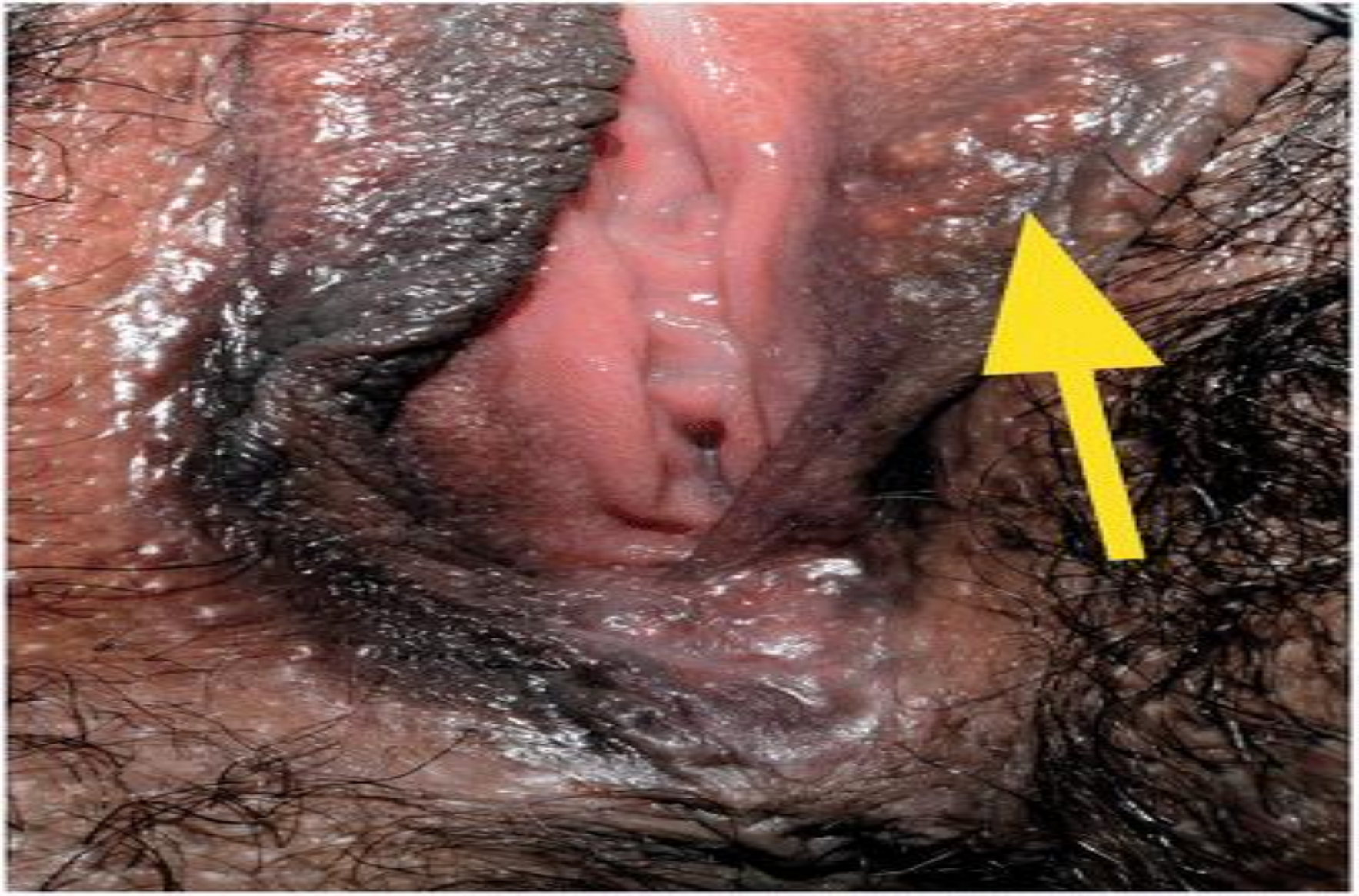
_The vulva is the 2nd common site of bilharzial affection (after the portio-vaginalis of the cervix)

-The lesion is commonly hypertrophic (or papillomatous) and less commonly ulcerative.

1- The papilloma: usually multiple dendritic, firm in consistency. If young lesion → red & bleed on contact. If long standing → white & fibrotic

The patient complains of discharge & bleeding + occasional intense itching

DD: condyloma accuminata & cancer vulva.



Schistosomiasis lesions on left labium minus (showing papillomatous area of 1.7 cm in length on the left labium minus which was not typical of a wart

2- The ulcerative type:

-multiple ulcers with sandy patch appearance.

-Usually seen in the labia minora and labia majora → intense itching and sorness.

Bilharziasis of the vagina

-Uncommon.

-Usually present as papillomatous lesion in the upper vagina

-Sometimes presents as sandy patches & infected ulcer with granular floor

-causes sero-sanginous discharge , sorness, itching, dysparunia + swelling.

-Old lesions may → stricture vagina & urinary fistula of bilharzial origin.

Bilharziasis of the cervix

-The portio-vaginalis of the cervix is the most common site of female genital bilharziasis.

-The lesion may be:

1- Papillomata: -Multiple & present in groups.

- red granulations or firm & fibrotic.

- Causes discharge & can cause severe bleeding

-The lesion may simulate cancer cervix.

2- Ulcers: solitary or multiple, usually superficial BUT if 2ry infected → deep, indurated & readily bleed on touch simulating cancer

Bilharziasis of the uterine corpus

-Rare.

-may result in intrauterine adhesions & amenorrhea.

-The serosa of the uterus may be involved as a part of miliary bilharzial tubercles in the pelvic peritoneum.

Bilharziasis of the tubes, ovaries and pelvic peritoneum

-The involvement of Fallopian tubes is not rare in endemic areas and may predispose to ectopic pregnancy and infertility.

-Multiple white and firm tubercles associated with perisalpingitis are seen at laparoscopy on the serosal surface of the tubes, ovaries and pelvis.

Bilharzial nodules may involve the muscle wall of the tube & the substance of the ovary.

Diagnosis

*The diagnosis is suggested by the association of bilharziasis of the urinary tract & rectum.

*Finding bilharzial ova in scrapings from lesions, in vaginal smears or colposcopic examination.

*Detection of bilharzial lesions in biopsy specimen obtaine from lesions of the endometrium (D&C), or from tubes or peritoneum (at laparoscopy)

Treatment

*Medical treatment: praziquantel (Biltricide) in a dose of 40mg/kg as a single dose is effective against both types of Schistosomal infection.

With extensive pathology, repeat the dose after one month.

*Surgical treatment: Excision of residual masses and infected lesions.