Subfertility

history, exam and investigations

NOOR ALNAIRAT
Female patient

1- length of time spent trying to get pregnant (how long have you been trying to get pregnant?)
2- any previous pregnancies (have you ever gotten pregnant before?)
3- coital frequency
4- occupation
5- menstrual history
6- history of PID
7- past medical and surgical
8- any previous fertility treatment
9- her general wellbeing (thyroid testing, pap smear)
Male patient

1- length of time spent trying for pregnancy ▶
2- is he a father of any previous pregnancies ▶
3- history of mumps or measles ▶
4- history of testicular trauma or surgery ▶
5- occupation ▶
6- past medical or surgical history ▶
Female and male exam

Female:

Pelvic examination: looking for any uterine pathology (fibroids)
Vital signs, height and weight

Male:

Testicular examination: volume, consistency, masses, absence of vas deferens, varicocele, any surgical scars
We have 3 main investigations to do for subfertility cases:

1. Follicular phase FSH, LH, estradiol levels: to check the hypothalamic-pituitary-ovarian axis dysfunction

2. Hysterosalpingogram (HSG), hysterocontrast synography (HyCoSy) or operative laparoscopy with dye: these 3 tests can be done to check fallopian tube patency

3. Semen analysis for males
When we check for tubal patency we use hysterosalpingogram (HSG) or HyCoSy.

And if these tests suggest fallopian tube blockage then we counsel the patient to undergo laparoscopy and dye test for diagnostic purposes.

And as laparoscopy is done if any pelvic pathology found that can be surgically corrected it will be corrected at time of operation.
Both HSG and HyCoSy are comparable in terms of effectiveness as screening tests not diagnostic!

Both are done by instrumentation of the uterine cavity putting a radio-opaque dye (HSG) or sono-opaque contrast (HyCySy) via a very fine catheter

Now after instrumentation during HSG, the time lapse of flow of dye is captured by x-ray, while in HyCySy, it is visualized via ultrasound
If the fallopian tubes are blocked, the dye will be seen to accumulate in a pocket representing blocked end of the fallopian tube.

Of course keep in mind that tubal patency is not equivalent to tubal function, and there is no effective test to check for tubal function now.
Semen analysis

Semen analysis should be performed after the patient has stopped sexual intercourse for 3-4 days.

2 abnormal test results are required for diagnosis of male subfertility

**Normal ranges**

- Total sperm count in ejaculate: 39–928 million
- Ejaculate volume: 1.5–7.6 mL
- Sperm concentration: 15–259 million per mL
- Total motility (progressive and non-progressive): 40–81 percent
- Progressive motility: 32–75 percent
- Sperm morphology: 4–48 percent
In males with very low sperm count or no sperms (azoospermia) it is important to check their testosterone level (because low levels suggest impaired production of sperms) and LH/FSH.

If the patient has Hypogonadotrophic hypogonadism (rare) can be treated easily with FSH hCG injections.

It is also very important to screen for cystic fibrosis mutations, why? Because a minor variant of CF comes as a congenital bilateral absence of the vas deferens.

Now if the male has CF mutations we should screen the female, because of both have the mutation there is ¼ chance of child being affected by CF so pre-conceptional counselling is important.
We also offer karyotyping as there may be Y chromosome deletion defects.

Some specific types of Y deletion:

1- AZFa
2- AZFb

And both of these variants carry a poor prognosis for surgical sperm retrieval procedures.
THANK YOU