**Tubal Patency Tests**

Apart from physiological function (ovulation),anatomical function such as *TUBAL PATENCY* affects infertility..

Mainly following tests are used for testing the tubal patency..
 1.Insufflation test ( Rubin’s test )
 2.HysteroSalpingoGraphy ( HSG )
 3.Laproscopic chromopertubation
 4.SonosalpingoGraphy

Other modalities

 1.Laparoscopy
 2.Hysteroscopy
 3.Transveginal falloscopy
 4.Ampullary & fimbrial Salpingoscopy
 5.Descending Test

**1.Insufflation test ( Rubin’s test) NOW OBSOLETE**

* Principle :

 Cervical canal is continuous with peritoneal cavity through tubes so, when air or Co2 pushed transcervically it reaches peritoneal cavity & gives evidence of normal patency..

* Time :

 Postmenstrual phase at least 2 days after stoppage of bleeding

* Limitation :
 PID & Post ovulatory period
* Observation :
 Fall in pressure when rise above 120 mmHg

 Hissing sound on auscultation at Iliac fossa

 Shoulder pain ( due to diaphragmatic irritation)

* Drawback :

 In 1/3 it’s false negative due to cornual spasm
 Can’t identify the SITE & SIDE of blockage

**2.HysteroSalpingoGraphy ( HSG )**

* Principle :

 Same as Insufflation test but instead of air & Co2 , DYE instilled trans cervically

* Time & Limitation :

 Same as Insufflation test

 There may be a risk of radiation..!!

* Dye :

 Water soluble (preferable) eg 60% urograffin

 Oil Soluble

* Complications : Infection , pain , vasovagal sympt. (atropine 30 min before procedure)
* *Oil soluble*
* Lipiodol & Ethiodol
* It gives more clear & Sharper image
* Slow – so,delayed
* More pain
* May cause oil granuloma & embolism
* *Water soluble*
* 50% Iodine with 6% polyvinyl Alcohol in water
* Rapid absorption
* Less tissue reaction & less adhesion
* Harmless if intravasated in venous system

Method :

 Visualization by screening with image intensifier in X-ray room..!!
 Foley’s catheter or Leech-wilkinson cannula for insufflation
 With *aseptic precaution* DYE injected by cannula *in uterine cavity* under vision with *Fluoroscopic screen..* 15 ml is adequate…!!!!

DYE flow observed.. It will come out from f.tube to peri.cavity & spill detected..According to it - interpreted……..!!!

**Observation**

* Dye spills out of abdominal ostia & smears the POD -----Tube patent
* Flow stops in between -----Tubal Block & site will seen
* Large confined mass without peritoneal spill -----May be hydrosalpinx

 **Other things can be identified..!!!!**

 such as..Uterine abnormality - septate, bicornuate etc…

Bilateral cornual block with extravasation suggest TUBERCULOUS salpingitis

***HSG report – normal***

******

***HSG report – uni/bi cornuate uterus***

  

***HSG report – hydrosalpinx***

******

***3.Laproscopic chromopertubation***

* Invasive procedure…
* Lap. visualization of pelvis, organs & injection of Methylene Blue dye through Cx & it’s spill is visualized..
* Indication : - Abnormal HSG finding

 - Failure to conceive after 6 month of Rx

 - Unexplained infertility & age above 35 yr

 - Prior to tubal microsurgery

 - Also used as Therapeutic in adhesion & fimbrial block,ovarian drilling

* Time :

 In seceretory phase…

 recent corpus leuteum may visualize

 Endometrial biopsy can taken..

* Method :

 double puncture method used & pelvic organ visualized specially fimbrial end & it’s relation..



***4.SonosalpingoGraphy***

* Popularized by G.Alllahabadiya as ‘ SION ‘ Test
* Principle : Normal saline pushed in u.cavity with pediatric foley’s catheter & bulb inflated above int.os which prevents leakage..
* Nearly 200 ml saline needed…
* Inj. of small amount air help in visualization of air bubble movement
* Fluid in Pouch of Douglas detected
* Advantage : Non-invasive

 No radiation exposure

 Tubal pathology can be detected

 Uterine malformation, synechia or polyp can be detected

***5.Transvaginal falloposcopy***

* Visualize lumen of tubes…
* Therapeutic for *Medial end blockage* due to adhesion or mucous plug..

***6.Ampullary & fimbrial Salpingoscopy***

* To Study mucosa of F. tube in deciding between tubal microsurgery & IVF..
* Colour Doppler Ultrasound – Under study

***7.Descending Test***

* Starch injected in pouch of Douglas, starch present in cervical mucosa 24 hr later indicate patency…
* Advnt. Of Endoscopy..

 Minimal invasive

 Early recovery & Early discharge

 less post op. Pain

 Better field of vision

 less chance of adhesion

* Dis advnt…

 Equipment , Skill, GA, Complications