

Hysterosalpingography And Sonohysterosalpingography As A Radiology Method In The Assessment Of Tubal Patency

O. Urushadze¹, L. Ezieshvili²

¹TSMU department of Radiology. Full Professor

²TSMU Department of Radiology



Abstract – The most frequent reason of infertility during last year's occurs to be azoospermia and bilateral tubal occlusion. Most clinicians and scientists believe that radiological methods are basic for the assessment of female reproductive tract and ultrasonography is a leader among others. Ultrasonography have no contraindications, possible to use in any phase of menstrual cycle and every trimester of pregnancy. Our study includes 50 patients with tubal infertility examined by contrast sonohysterosalpingography and 30 patient examined by HSG. Age of patients varied from 28 to 40 years old. All studies have been done based on patients informed consent proved by ethic committee of our hospital.

The results of our study reveals that sonohysterosalpingography and HSG are highly informative methods for the assessment of tubal patency in infertile woman. Use of these methods considers their positive and negative features will shorten the time of adequate diagnose and increases chance of pregnancy

Keywords – Hysterosalpingography, Sonohysterosalpingography, Radiology Method, Tubal Patency

I. INTRODUCTION

Infertility is a problem of global healthcare, affecting billions of couples during their reproductive age. Based on WHO data nowadays almost 86 000 000 couples are infertile.

The most frequent reason of infertility during last year's azoospermia and bilateral tubal occlusion is named in a scientist sources (1)

Patent tubes are very important for the fertilization. Occlusion or narrowing of fallopian tubes mostly caused by sexually transmitted diseases. 12-33% of infertility defined by tubal factors. (2.)

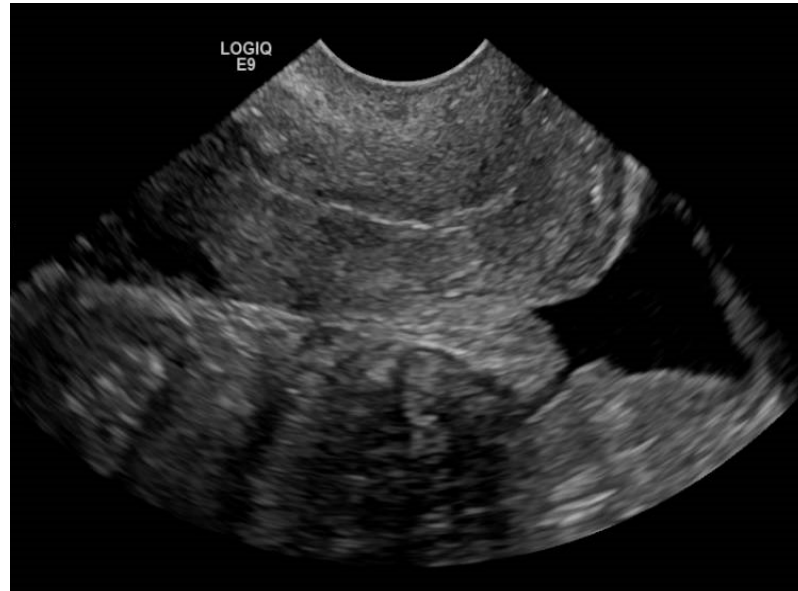
During development of radiology when female reproductive organs were assessed only by x ray methods, because of gonad and fetal radiation the role of radiology was very insignificant, but since implementation of ultrasonography a method without radioactive invasion became one of the most important and reliable method for assessment of reproductive health of the woman. Most clinicians and scientists believe that radiological methods are basic for the assessment of female reproductive tract and ultrasonography is a leader among others. (3)

Ultrasonography have no contraindications, possible to use in any phase of menstrual cycle and every trimester of pregnancy. The diagnostic reliability increases with a combination of transvaginal and transabdominal methods. (4, 5,6,7)

Hysterosalpingography is a visualization of fallopian tubes using contrast media. (8). For the visualization of the fallopian tubes radiological method can be choose based on clinical situation.

The aim of our study was to determine potential of HSG and sonohysterosalpingography for the assessment of fallopian tube patency. Sonohysterosalpingography is a safe method with minimal invasion and possibility to visualize tubal patency and endometrium outline. (9)

During sonohysterosalpingography a small catheter with sterile saline solution is introduced into uterine cavity and vaginal ultrasound is performed. Collection of the fluid in a Douglas pouch confirms tubal patency and can be easily visualized by ultrasound.

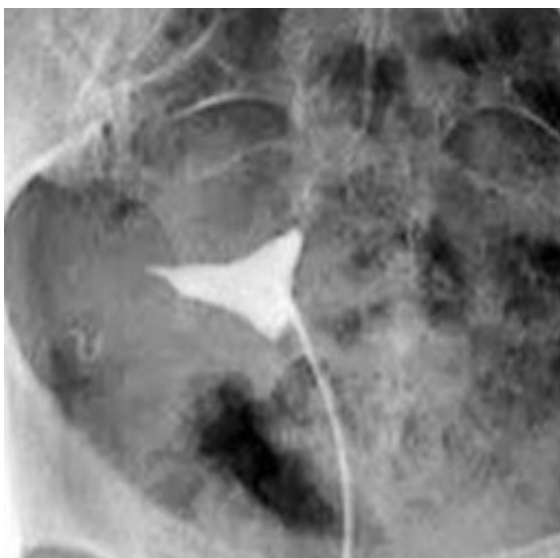


Pic. N 1. Fluid in a Douglas pouch

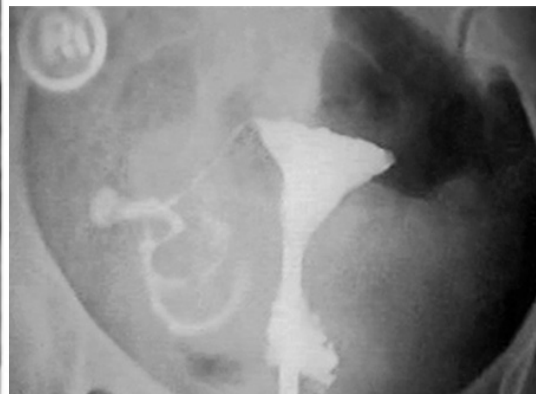
Sonohysterosalpingography performed without contrast media is inexpensive, minimally invasive and have no risks associated to ionizing radiation. Failure of the method is that impossible to assess tubal anatomy and determine the side of patency. Sonohisterography is additional method of ultrasonography and increases visualization of pathological changes of uterus reproductive organs. (10)

II. MATERIALS AND METHOD OF OUR STUDY

Our study includes 50 patients with tubal infertility examined by contrast sonohysterosalpingography and 30 patient examined by HSG. Age of patients varied from 28 to 40 years old. All studies have been done based on patients informed consent proved by ethic committee of our hospital. Most of the patients had a history of sexually transmitted diseases with different severity. almost 10% history of abdominal surgery (caesarian section, myomectomy, cystectomy, diagnostic laparoscopy) history of minor surgery like multiply uterine cavity curettage. In majority of cases infertility was secondary with previous uncomplicated pregnancies and deliveries. In 2% of case we have diagnosed abdominal endometrial heterotopies and endomertiomias. In 82 % of cases we have diagnosed bilateral and 18 % of cases unilateral tubal occlusion 2,



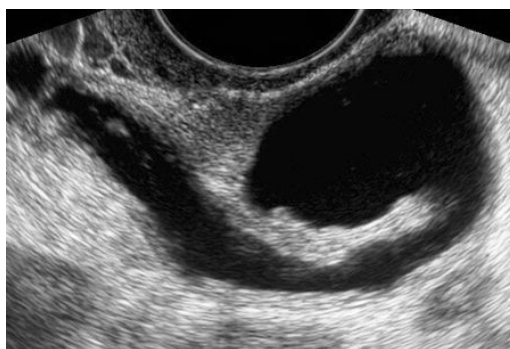
Pic.2 bilateral tubal occlusion



Pic 3. Unilateral tubal occlusion

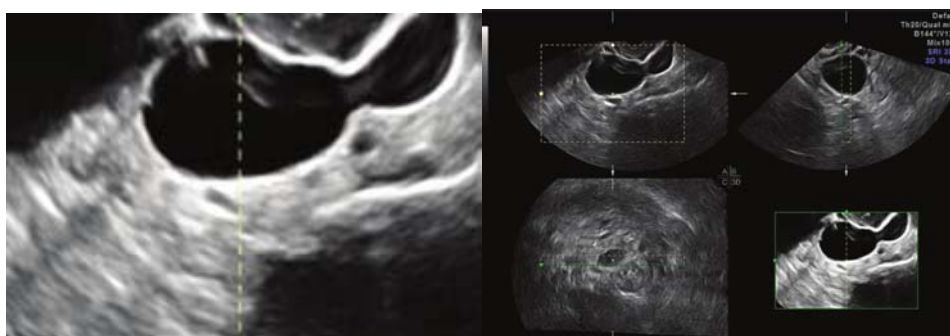
By contrast sonohysterosalpingography its possible to diagnose distal and proximal tubal obstruction and type of obstruction total or partial.

In 71% of our patients diagnose of distal occlusion has been made as a result of hydro salpinx and pelvic adhesion.



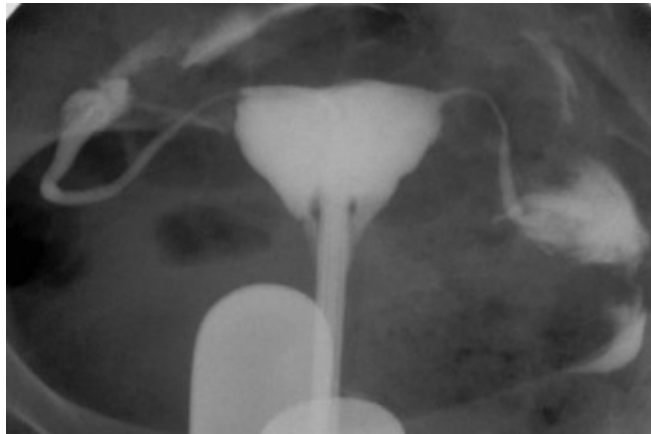
Pic 4. Distal tubal occlusion

In 29% obstruction was diagnosed in a proximal part of the tube with known infection in a patient history, endometriosis or uterine fibroid.



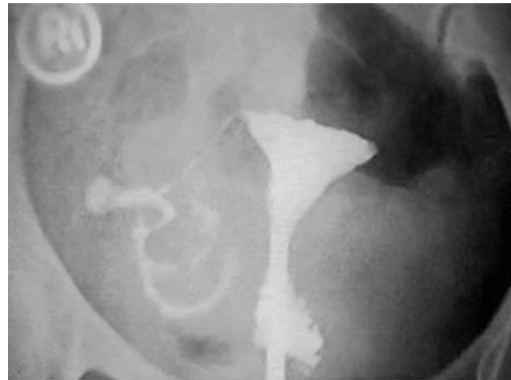
Pic 5. proximal tubal occlusion

In 30 cases of our patients we have performed X-ray hysterosalpingography using water soluble contrast media introduced into uterine cavity under pressure followed by serial x-ray to display uterine and tubal contours and contrast migration to the abdominal cavity.



Pic 6. HSG both tubes are patent.

Hysterosalpingography can diagnose side and location of the fallopian occlusion, which is very important for choosing treatment method.



Pic 7. HSG unilateral right side patent tube

Hysterosalpingography is accompanied by radiation by 1 millizivert effective dose. Which equals to radiation received by a human during 4 months in a natural environment. Contrast media used during HSG may induce nausea, vomiting, rush, alertness etc.

III. CONCLUSION

The results of our study reveals that sonohysterosalpingography and HSG are highly informative methods for the assessment of tubal patency in infertile woman. Use of these methods considers their positive and negative features will shorten the time of adequate diagnose and increases chance of pregnancy

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