

HYSTEOSALPINGO - FOAM SONOGRAPHY (HyFoSy) AND THE SUBTLE SECONDARY SIGNS OF TUBAL PATENCY

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INTRODUCTION

1 in 6 couples are affected by Subfertility. Abnormalities of the female reproductive system are responsible for 70% of cases with Tubal factors contributing to 20% of these cases¹. Tubal assessment is therefore an important part of the infertility investigation. HyFoSy is a well-tolerated, all-inclusive screening test for tubal patency. It is an ideal initial investigation, giving real time imaging without radiation and eliminating the need for general anaesthetic. HyFoSy is a modification of HyCoSy. Foam created from diluted ExEm gel is used as a hyperechogenic contrast agent. Literature suggests it is superior to HyCoSy with saline for demonstrating tubal patency². This poster outlines the HyFoSy procedure and demonstrates some Subtle Secondary Sonographic signs of Tubal patency.

ULTRASOUND TECHNIQUE

- Scheduled in proliferative phase of menstrual cycle prior to Ovulation.
- Baseline Pelvic and TV scan performed to evaluate for pathology.
- Obtain signed consent.
- Patient positioned in lithotomy position.
- Under aseptic technique a speculum is gently inserted into the vagina. A catheter is introduced through the cervix. A tiny balloon at the end of the catheter is inflated to keep the catheter in position at the Internal Os. Speculum is removed and Transvaginal transducer reinserted (Fig. A and B).
- ExEm Foam Kit is used (Fig. C). 5mls of ExEm gel is manually agitated with 5mls of ExEm water and slowly injected through the catheter via a 10mls syringe. (Fig. D)
- Contrast is observed passing through the whole length of the fallopian tubes and spilling from the fimbrial end into the peritoneal cavity (Fig. E). When this is visibly demonstrated, the tubes are considered patent³.
- Once required images are recorded the catheter is removed. The patient is given a sanitary pad, allowed dress and observed for 30 minutes.

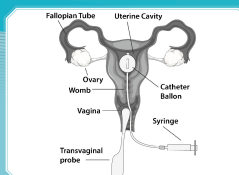


Fig. A.) Catheter placement.

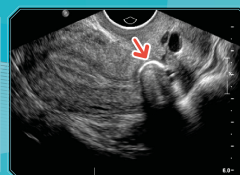


Fig. B.) Balloon catheter in position at the Internal Os (Arrow).



Fig. C.) ExEm Foam Kit.

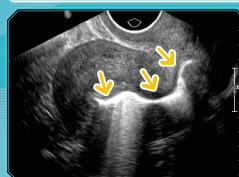


Fig. D.) Adequate uterine filling with ExEm foam (Arrows).

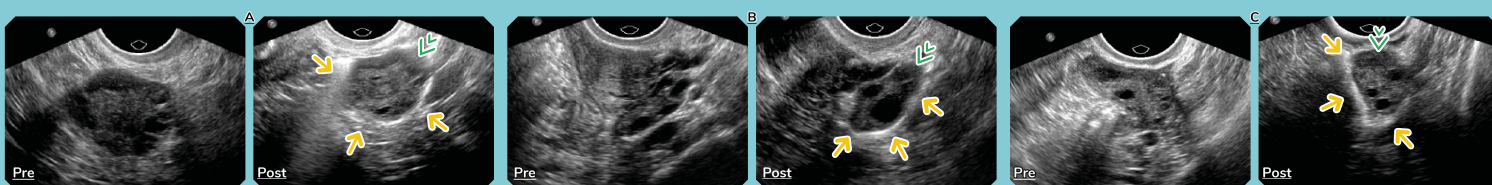


Fig. E.) Antegrade flow of the Hyperechogenic foam is traced from the Cornua (Arrow) to the adnexal region (Arrow head), indicating tubal patency.

FINDINGS: Where tubal patency is confirmed, Subtle Secondary Sonographic findings have been noted by the author.

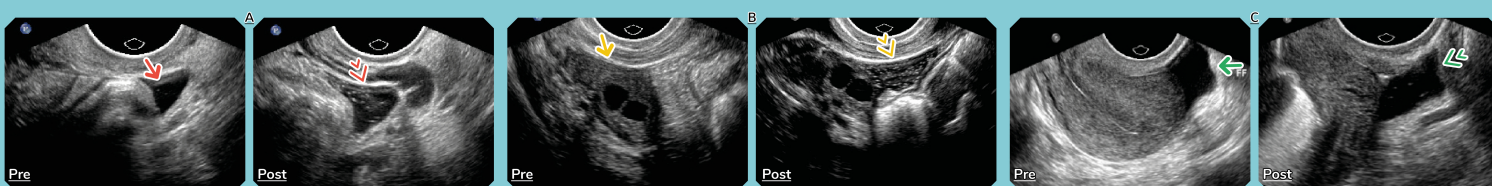
THESE INCLUDE:

1. ECHOGENIC RIM AROUND THE OVARIES WITH SUBSEQUENT LOSS OF SONOGRAPHIC DETAIL OF OVARIAN TISSUE



Figures 1A, B and C compare an ovary pre and post contrast on three separate patients. On the comparable image post peritoneal spillage Yellow Arrows outline the echogenic rim and Green Arrowhead shows loss of sonographic detail.

2. FREE FLUID CONTAINING ECHOGENIC BUBBLES INDICATING PERITONEAL SPILLAGE

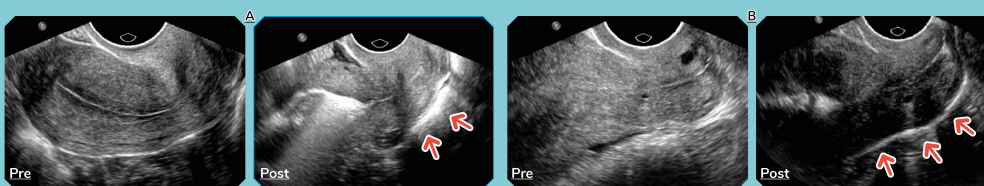


Anechoic free fluid in the left adnexa on baseline TV scan (Arrow). Post extravasation of contrast this free fluid contains echogenic bubbles (Arrowhead).

Right ovary and adnexa on the baseline TV scan (Arrow). On the comparable image post extravasation of contrast, there is free fluid with echogenic bubbles present indicating peritoneal spillage (Arrowhead).

Anechoic free fluid in the Cul De Sac on baseline scan (Arrow) and on comparable post contrast image containing echogenic bubbles (Arrowhead).

3. ECHOGENIC RIM AROUND THE POSTERIOR UTERUS



Figures 3A and B compare a Uterus pre and post contrast on two separate patients. Red Arrows on the comparable post contrast images demonstrate an echogenic rim around the posterior Uterus.

CONCLUSION

Awareness of these Subtle Secondary Signs of tubal patency can be particularly helpful in cases where visualisation of the passage of contrast is difficult due to overlying bowel gas, a tortuous tube or a large fibroid uterus. The ability to recognise these signs can help to increase confidence in confirming a diagnosis of tubal patency.

REFERENCES

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