

HyFoSy

Hysterosalpingo-Foam Sonography

BSGI London 15 April 2010



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HyFoSy

Assessment of Fallopian tube patency is an important part of routine infertility work-up since tubal obstruction is estimated to play a role in 10% to 35% of infertile couples.

Collins et al, Fertil Steril 1995

Snick et al, Hum Reprod 1997

HyFoSy

Several test are available for this purpose

- hysterosalpingography (HSG)
- selective salpingography
- laparoscopy and dye test,
- hysterosalpingo-contrast sonography (HyCoSy).

HyFoSy

HyCoSy allows the assessment of the patency of the Fallopian tubes by injection of an echogenic medium

The accuracy of HyCoSy was found to be comparable to that of HSG

Dijkman et al Eur J Radiol 2000

Reis et al Hum Reprod 1998

HyFoSy

Most commonly used echogenic medium
Echovist®.

- slowly soluble galactose microparticles
- galactose allergy contra-indication
- adverse reactions 5%
(vasovagal reactions, nausea, vomiting, hyperventilation, sweating)
- discomfort or mild or moderate pain is usually present

HyFoSy

Other disadvantages of Echovist®

- high price
- (recently) unavailable

HyFoSy

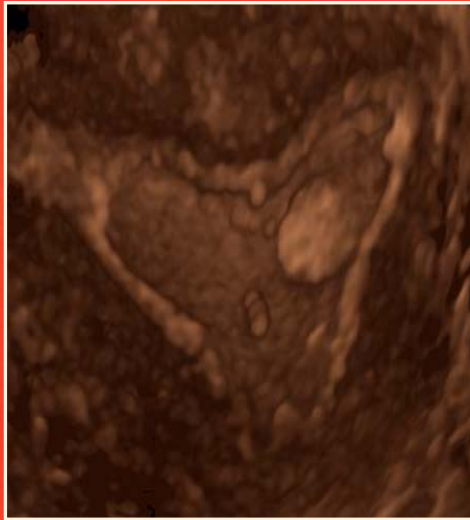
It has been suggested to use air with saline as a cheap alternative for Echovist®

- After mixing air with saline air escapes from the solution within seconds
- Actually most of the air bubbles have vanished at the moment of its injection

ISSN 0015-0282

FERTILITY AND STERILITY®

JANUARY 2007
Vol. 87 No. 1



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The Official Journal of the American Society for Reproductive Medicine



In 2007 we have introduced a Gel (ExEm-gel®) as a contrast medium for Sonohysterography as an alternative for saline

Gel instillation offers a more stable filling of the uterine cavity and this technique has minimal inconveniences for the patient

GIS-Kit®

ExEm-Gel®

glycerol + hydroxyethylcellulose

no additives

CE-marked

FDA-pending

>10.000 procedures in Europe

no allergic reactions

no infections

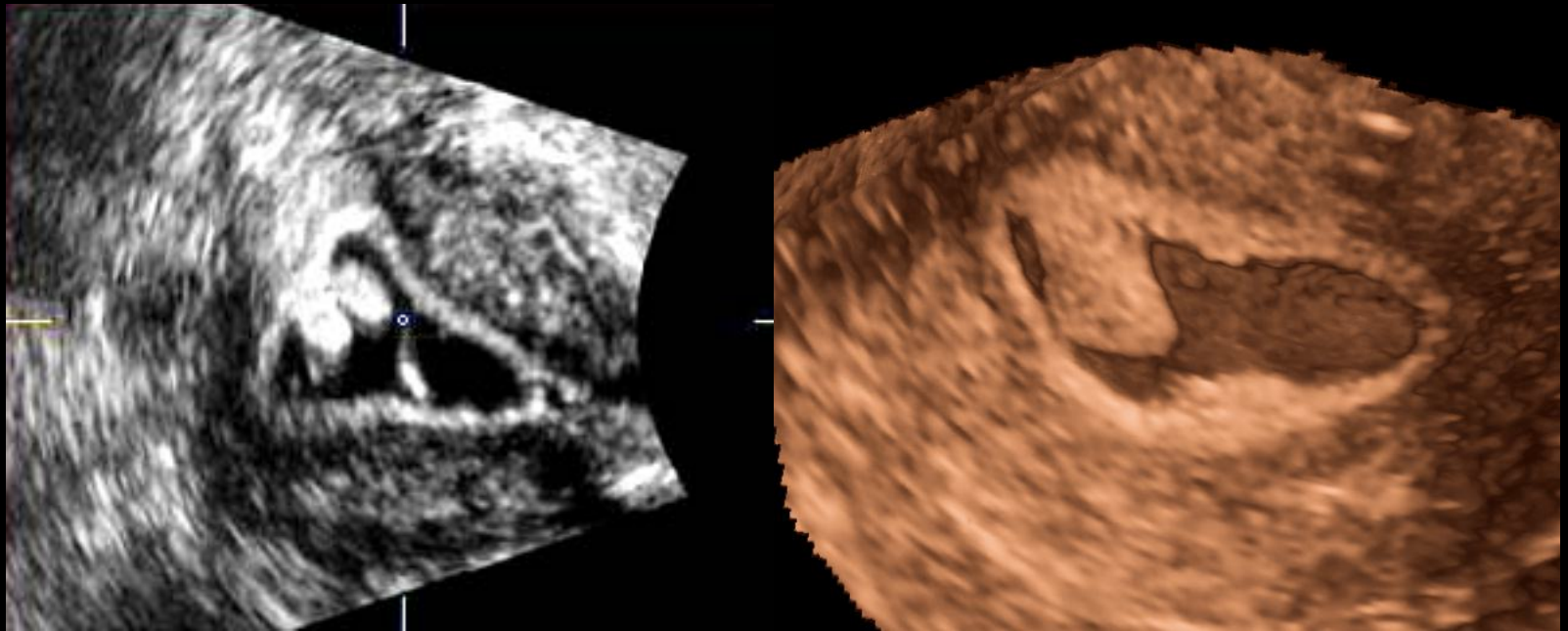
details



secretory phase endometrium



3D reconstruction



3D virtual hysteroscopy



3D virtual hysteroscopy

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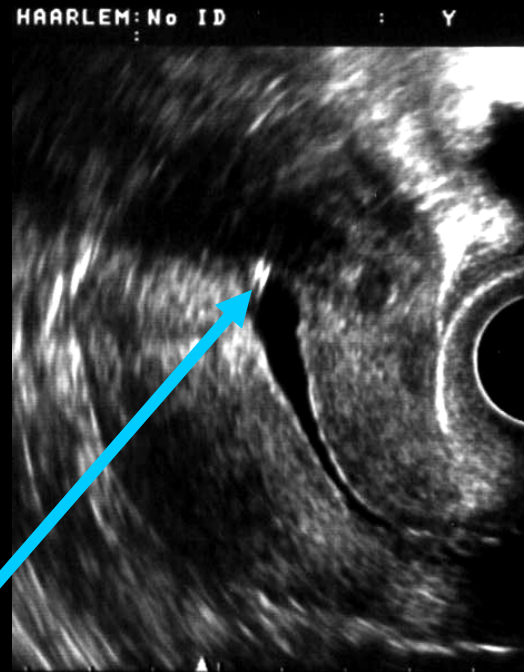
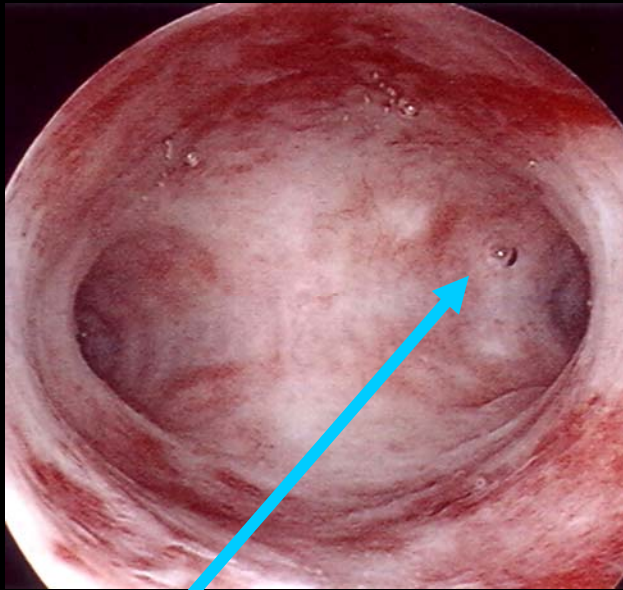


43: REAL TIME 3D Probe: TV3D



avoid air bubbles

air bubbles





HyFoSy

When this gel is pushed rigorously through small openings in syringes or tubings, turbulence will cause local pressure drops resulting in air to dissolve in the solution in the form of little air bubbles.

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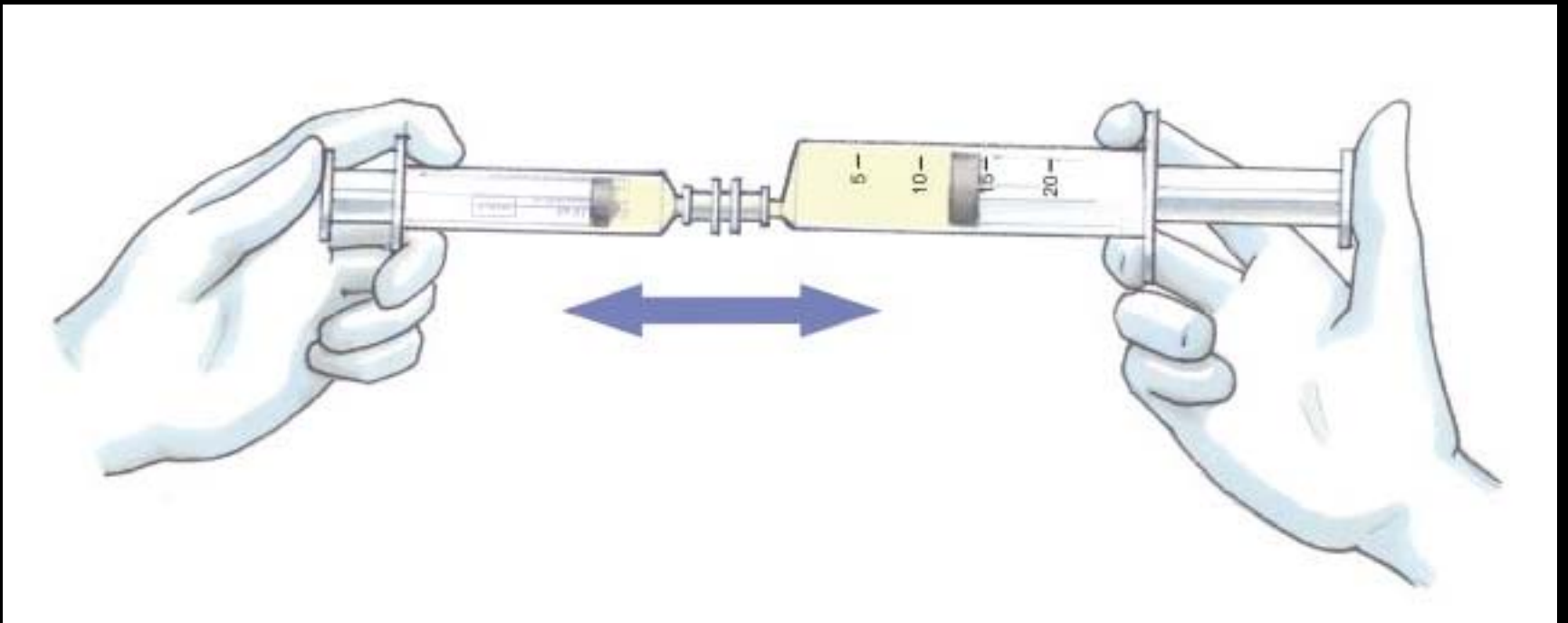
Make your enemy your friend

HyFoSy

These microbubbles form a foam that is stable for several minutes and when diluted with 10 ml of purified water sufficient fluid to pass patent tubes

(from original 88,25% purified water in the gel to 94,10% purified water in the foam)

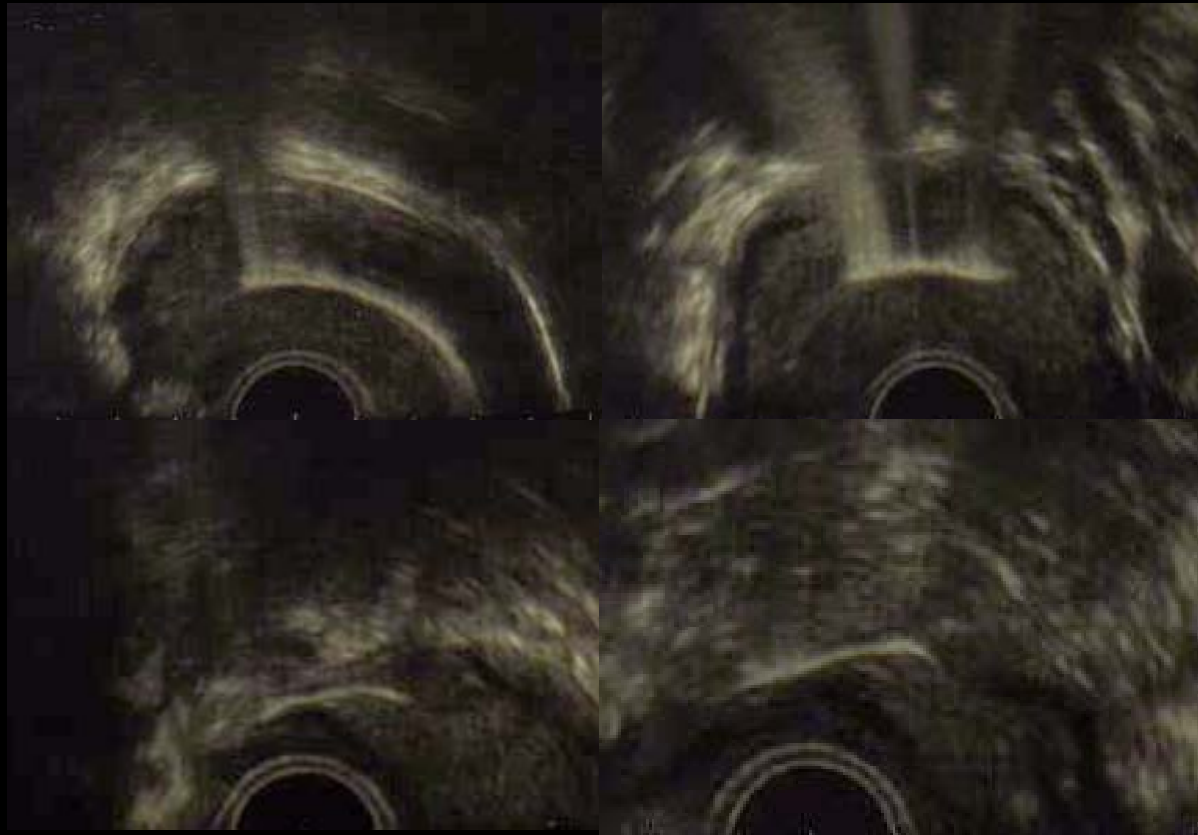
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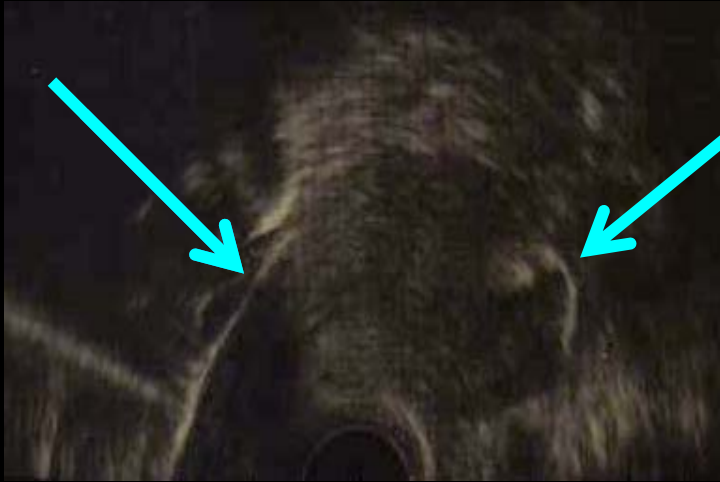
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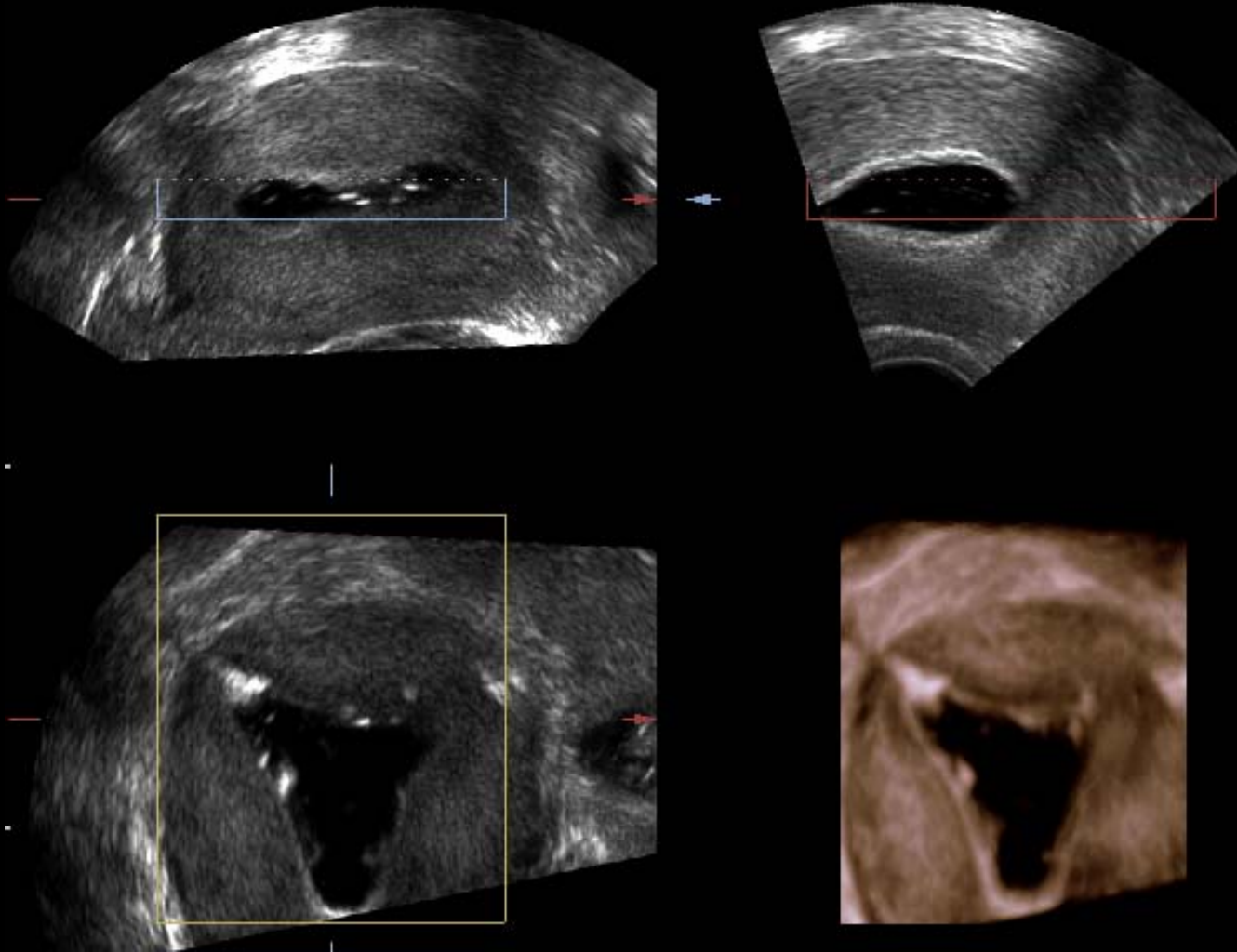
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HyFoSy



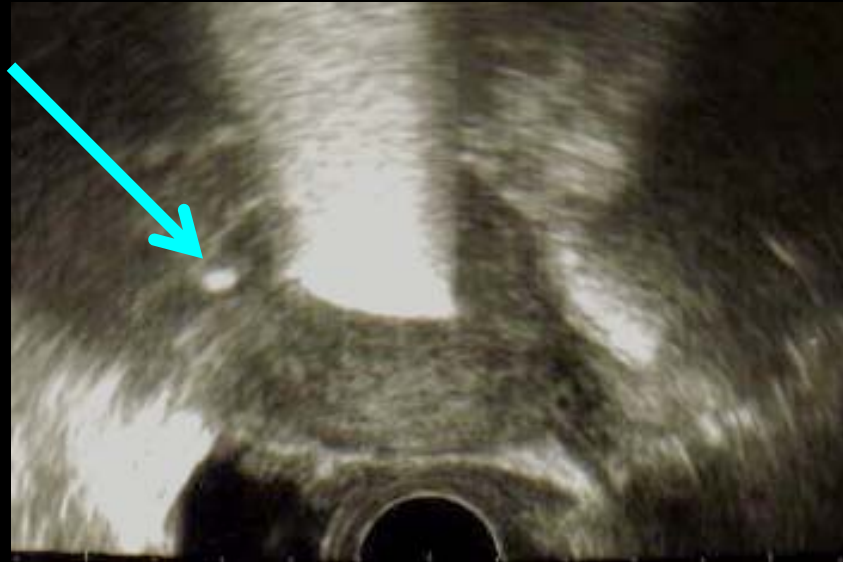
GIS Essure confirmation test



GIS Essure confirmation test



HyFoSy Adiana Confirmation



HyFoSy discussion

- HyFoSy seems to be a clean, safe and cheap alternative for HyCoSy
- As the ingredients of this foam are equal to ExEm-gel® we expect that allergy and complications will be equally rare
- It can be expected that (contrast) sonography will play a role as a reference test for demonstrating adequate positioning of intratubal devices