

Correction: Genially ART

Instructions

Your mission consists in finding the origin(s) of the *infertility* of Mr and Mrs Esvity in order to propose them, if possible, an *ART technique*.

You'll use the scientific approach in a medical report prepared for the couple to explain the situation.

REPORT

Observations

Mr and Mrs Esvity have been trying to have a baby for several months unsuccessfully. We've run different tests in order to determine the origin of their problem. It could come from the man or the woman.

hypotheses

Maybe there is an issue in the production of gametes, or maybe it can be a problem coming after fertilization: for instance, the egg cell can't stay in the uterus because of its morphology, or because of an hormonal issue.

Blood tests:

Testosterone level testing

Mr Esvity result : 21.8 nmol/L

Normal result : 9.9 – 27.8 nmol/L

Pituitary hormones level testing

FSH: Mr Esvity result : 10 U/L

Normal result : 1.4 – 18.1 U/L

LH: Mr Esvity result : 7 U/L

Normal result : 1.5 – 9.3 U/L

Ovarian hormones level testing

Mrs Esvity results :

	J0	J4	J8	J12	J16	J20	J24	J28
Estradiol (pg/mL)	50	55	100	250	100	150	100	50
Progesterone (ng/mL)	0,8	0,5	0,8	0,7	6	14	13	0,8

Normal results

Oestradiol References 26 to 314 pg/mL

Progesterone < 15 ng/mL

Pituitary hormones level testing

Mrs Esvity results :

	J0	J4	J8	J12	J13	J16	J20	J24	J28
FSH (mUi/mL)	3	5	4,5	4	6	3	3	3	2
LH (mUi/mL)	4	6,5	6	8	24	4	4	3,8	3,4

mUi/mL = milli-international units per milliliter

Normal results

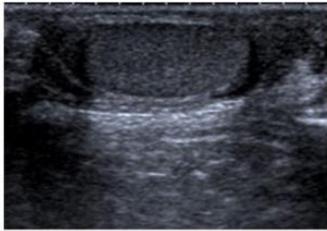
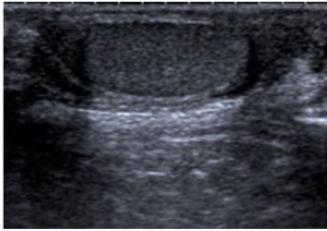
FSH References 3,5 to 21,5 mUi / mL

LH 2,4 to 95,6 mUi / mL

Blood tests show that the hormones levels are normal in Mr Esvity. Mrs Esvity though, seems to have a low rate of FSH at the beginning and at the end of the cycle. But it's quite close to the normal result reference (3 or 2 mUi/mL instead of 3.5mUi/mL).

ULTRASOUND SCANS

ULTRASOUND SCAN OF TESTICLES

	Left testicle	Right testicle
Mr Esvity result		
Normal result		

ULTRASOUND SCAN OF OVARIES

	Left ovary	Right ovary
Mrs Esvity result		
Normal result		

Ultrasound scans of both Mr and Mrs Esvity are totally identical to normal scans.

Bodily fluid analysis

Semen analysis

Mr Esvity results:

Test Field	Result	Normal values
Colour	Grey white	grey white
Quantity	2,2 ml	2,0mL or more
Viscosity	Normal	
Reaction	Alkaline	alkaline
Total spermatozoa Count	100 Million/ml	20 million/mL or more
Vitality	90% alive	75 % or more alive
Motility	30% with forward progression 15% with rapid progression	50 % or more with forward progression 25 % or more with rapid progression
Morphology	10 % Normal	30 % or more with normal forms

90% Abnormal :



spermatozoa
with 2 flagellums

The semen analysis of Mr Esvity shows abnormalities in the motility and morphology of sperms. Indeed, we can see that only 30% have a forward progression, 15% have a rapid progression, and only 10% have a normal morphology. The normal values state that 50% should have a forward progression, 25% should have a rapid progression, and 30% at least should be normal in morphology.

Conclusion

The problem comes from Mr Esvity semen. His sperm are numerous and lively but can't reach the ovum because of a lack of motility and an abnormal shape.

Solutions proposed

IVF: because the sperms can't move correctly, we think that IVI will not be a good solution as sperms would have still a long way to go even if we put them in the uterus. Therefore, IVF should be a good alternative, we could control the fertilization in lab and transfer the egg cells in the uterus, hoping they could nest into the its lining.

Eventually, if IVF doesn't show any good result, we could think about gamete donation.