

The egg donors' preparation: sufficiency and effectiveness.

Kushniruk Nataliya, M.D.

Butenko V., M.D., PhD, Strelko G., M.D., PhD

*Reproductive Genetics Clinic "Victoria",
Kiev, Ukraine*

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Objectives



To study the possibility of optimization of the Egg donation program:

- *Safety and comfort for both : egg donor and patient*
- *Influence of the ovarian response predictors on stimulation protocol, oocytes' count and quality, as well as blastocysts formation rate*
- *Cut the expenses*

This program must be safe for both: Patient –recipient and Egg Donor (standard donor exam)



Provide patients' safety:

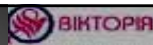
To exclude the infections transmission from Egg donor to Recipient by careful scan for: (HIV ½ types, Syphilis, Hepatitis B and C , CMV and STD).

Actual transmission percentage is extremely low, less than 1 %. HIV 0.12%, Hepatitis B 0.8% Hepatitis C 1% (N.Garrido, J.L.Zuzuarregui, 2002)



- ✓ Karyotype check: is it really necessary for all Egg Donors despite their successful previous childbearing?
- ✓ It should be done to exclude the presence of balanced chromosomal aberrations. Although, female donors had a low presence of karyotype anomalies, the vast majority of the anomalies was found to be irrelevant, with the transmission risk (1%) (N. Garrido, J.L. Zuzuarregui, 2002).
- ✓ Despite this fact, carrier status check should be recommended for definite ethnic groups to prevent the transmission of Tay-Sachs, Canavan, and Gaucher's disease, breast and ovarian cancer (BRCA-1) mutations, thalassemia, sickle cell anemia, cystic fibrosis, fragile-X etc.

P. Devroey et al. Approaches to improve the diagnosis and management of infertility Human Reproduction Update, Vol.0, No.0 pp. 1-18, 2009



Donor's safety

To provide donors' safety:

- Blood type and Rhesus ID, CBC, Blood Glucose, Urine microscopy, Coagulation count, Pelvic ultrasound, GP conclusion.
- To reduce the internal bleeding risk (1-3%) by careful examination of inherited coagulopathy (up to 5% in population Rare Bleeding Disorders database, 2004)
- Check for AMH, levels to predict the OHSS by safe stimulation protocol decrease the OHSS rate under 20% (reduce donor's discomfort and patient's expenses)

TREATMENT vs PROPHYLAXIS

What's profitable?

OHSS treatment:

- Out - patient stay 5-7 days
- Ultrasound 2-3 times
- Paracentesis 1-2 times
- Infusions
- General clinical tests
- Totally: about 5,000 UAH

OHSS prophylaxis:

- Out - patient stay 1 day
- CABERGOLINUM 1 pill daily 4 days
- Infusion of Albumin 10% 100 ml 1 day
- Totally: about 1,500 UAH



Conclusions: OHSS prophylaxis saves up to 75% of treatment expenses

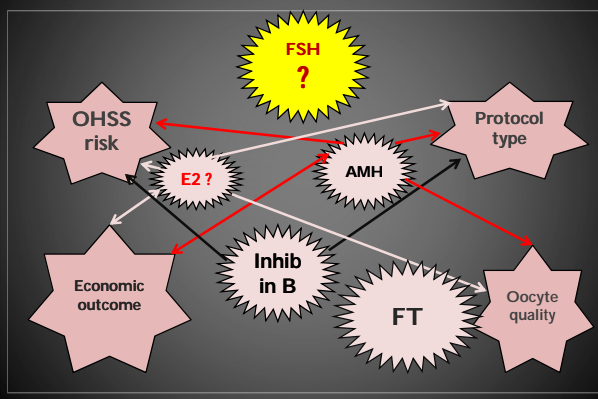
May Standard Egg Donors investigation predict the oocytes count and quality?

With the help of routine standard investigation protocol for Egg donors, we may only rely on the ultrasound criteria to predict ovarian response:

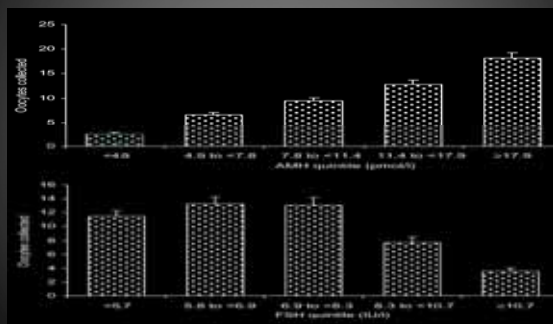
Is it enough?

- ✓ AFC (non accurate) - depends on BMI, probe resolution, peritoneal adhesions, BCP, etc.
- ✓ Ovarian volume (measurement accuracy depends on the mentioned above items)

Non ultrasound predictors:



AMH versus FSH. Who is the best oocyte count predictor?



Conclusions

There is no strict correlation between baised AMH and FSH, E2, Inhibin B levels, Functional tests and oocyte quality but statistically proved the decrease of oocyte quality at "extreme" responders period.



Predictors : quantity, quality, economy?

Index	Protocol	Oocyte count	Ovarian quality	OHSS	Economy
FSH	+/-	+/-	-	-	?
E2	+/-	+/-	-	-	?
Inhibin B	+	+	+/-	+	+/-
AMH	+	+	+/-	+	+
Functional tests	+	+	+/-	+/-	-

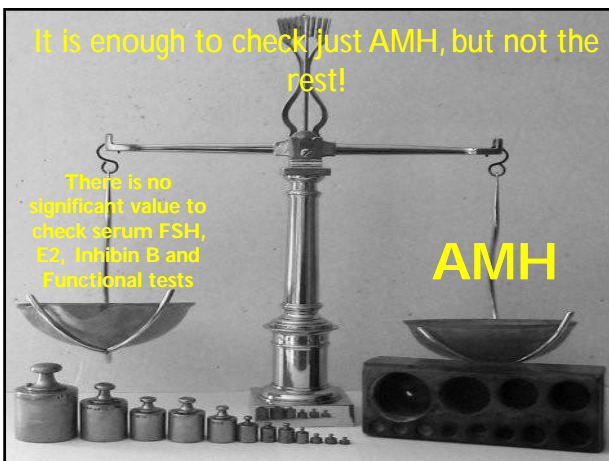
AMH serum concentration provides us with the most significant quantity correlation, and is less expensive than Inhibin B.

Kolibanakis EM et al.(2006) Are endogenous LH levels during ovarian stimulation for IVF using GnRH analogues associated with the probability of ongoing pregnancy? A systematic review. Hum Reprod Update 12,3-12

It is enough to check just AMH, but not the rest!

There is no significant value to check serum FSH, E2, Inhibin B and Functional tests

AMH



Let us talk about the *QUALITY*

AMH pmol/L	4.9-7.8	7.8-11.4	11.4-17.9	More than 17.9
BMI (kg/m ²)	23.4±3.45			
Oocyte count	Up to 21 cells		More than 21 cells	
Mean	5.45±1.15		8.87±2.9	
Ovarian volume				
Blastocyst rate (%)	23.7±5.12		19.3±5.24	
OHSS probability	Low or medium		High	
	Agonist GnRH (ampuls)	HP- GnRH	Oocyte count	
Short Flare-up protocol	10.1±1.45	34.2±4.6	12.2±2.45	
Long protocol	14.1±1.2	35.9±4.86	15.1±1.98	

Conclusions



- Optimization (under the MHU direction # 771, it's almost safe from the infections transmission point of view) Despite this fact there still a Big Discussion about the numerous inherited disorders transmission
- From economy and donors comfort point of view its necessary to keep in mind that it's 3 times as cheap to prevent than to cure complications
- There are no significant difference in stimulation protocols in embryological aspect, thus reasonable to choose the plausible protocol: Short Flare-up or Short antagonists (in risk of OHSS)

THANK YOU

