

Edessy endometrial receptivity score “objectivity”

Editorial

Endometrial receptivity (ER), Is it a dilemma? Is it possible to be evaluated in an objective way? It is a temporally unique sequence of factors that make the endometrium receptive to embryonic implantation. Why temporally? Because it occurs only during the Implantation window, the period during which the endometrium is optimally receptive to implanting blastocyst. The biochemical markers of ER include endometrial adhesion molecules (e.g. integrins), endometrial anti-adhesion molecules (e.g. mucin 1), endometrial cytokines, endometrial growth factors, endometrial immune markers and other endometrial markers. Endometrial function test may be the most efficient way to directly assess endometrial receptivity prior to undergoing expensive ART procedures as it can identify unreceptive endometrium. Pinopodes are morphological markers of endometrial receptivity, which persist for 24 to 48hours between days 19 and 21 of the cycle. Noninvasive assessment of endometrial receptivity includes, high resolution transvaginal ultrasonography (US), three-dimensional US, Doppler US, three-dimensional power Doppler US, magnetic resonance imaging and endometrial tissue blood flow.

The principal approach to deal with unexplained infertility used to be expectant observation with timed intercourse and certain lifestyle changes for both partners like smoking and alcohol cessation. This had an average cycle fecundity of 1.3% to 4.1% which is much lower than most treatment interventions. This shifted the interest towards offering other management modalities like intrauterine insemination with or without ovarian hyperstimulation in addition to in vitro fertilization targeting a highest cycle fecundity rates. Why Objective information? Because it is a Central concept, Related to Reality and Truth, which has been variously defined by sources. Objective informations are the state or quality of being true even outside of a subject's individual biases, interpretations, feelings, and imaginings. A proposition is generally considered objectively true (to have objective truth) when its truth conditions are met and are “bias-free”; that is, existing without biases caused by, feelings, ideas, etc. of a sentient subject.

A second, broader meaning of the term refers to the ability in

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any context to judge fairly, without bias or external influence; this second meaning of objectivity is sometimes used synonymously with neutrality. It is fact based, measurable and observable, suitable for decision making and reporting, while subjective informations are based on personal opinions, interpretations, points of view, emotions and judgment, usually not suitable for decision making or reporting. Scoring system is an important way of subjective information expression, depends upon the most important factors affecting the subject we are dealing with. Each of these factors is graded according to the degree of severity or importance. Edessy endometrial Receptivity Score (ERS) is an objective method to evaluate the endometrial receptivity and pregnancy outcome. According to their work, they found that the most important factors affecting endometrial receptivity are tabulated in Table 1.¹ Pregnancy rates were found to be 5%, 10%, 20%, 15% and 30% in groups I, II, III, IV and V respectively with significant statistical differences (Tables 1) (Table 2). The cutoff point of ERS for pregnancy (for all groups) was found to be 6 above which pregnancy occurs. ERS was improved from 4 in the LF to 6,6,8,6, and 10 in EL in the groups I, II, III, IV and V respectively. Factor D was improved by sildenafil only in group IV while Factor A showed improvement in groups III and V only.

Table 1 Edessy endometrial receptivity score

US& Doppler parameter	Scoring		
	0	1	2
A- ER (Endometrial echogenicity)	Hypoechoogenicity	Isoechoogenicity	Hyperechoogenicity
B- ET (Endometrial thickness)	5-6.9	7-8.9	10-Sep
C-PI (Pulsatility index)	3	2-2.99	1-1.99
D-RI (Resistance index)	>0.59	0.59-0.56	<0.56
E-EPDA (endometrial powered Doppler area)	1.1-3.9	4-4.9	>5

ERS was detected in the late follicular phase (LF) and the early luteal phase (EL).

Table 2 Pregnancy rates

Group pregnancy	G I= 20	G II = 20	G III= 20	G IV= 20	G V= 20	P
Pregnant	1 case (5%)	2 cases (10%)	4 cases (20%)	3 cases (15%)	6 cases (30%)	<0.05

Drugs used for enhancing the ER were, G1= Placebo, G2= low-dose aspirin, G3= estrogen, G4= nitroglycerin and G5= sildenafil.

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Conflict of interest

The author declares no conflict of interest.

References

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