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RESEARCH ARTICLE

PREDICTION OF OUTCOME OF CONCEPTION CYCLE BY TRANSVAGINAL USG WITH HELP OF USSR AND UBP METHOD IN WEST BENGAL

Irاندati Mukhopadhyay, Ashis Saha and Nupur Nandi

¹Department of Radio-Diagnosis, KPC Medical College

²Department of Medicine

³Department of Gynae & OBS

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ABSTRACT

Prediction of the outcome of conception cycle during normal cycles, medically stimulated non I.U.I. cycles - I.U.I. & I.V.F cycles by Transvaginal USG with taking into account UBP (Uterine Biophysical Profile) & USSR (Uterine Scoring System of Reproduction) method is accurate effective and inexpensive way. We took permission from our ethical committee and conducted a study in KPC medical college.

Key words:

Endometrium, Transvaginal
Ultrasound, Uterine Scoring
system of reproduction, uterine
biophysical profile Prediction in
Pregnancy.

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INTRODUCTION

Infertility affect an individual/couple at a basic level – loss of self esteem, disappointment, depression, leaving a legacy etc.

So, as per guideline we conducted a study in K.P.C. Medical College to predict the outcome of conception cycles during normal cycles, medically stimulated non I.U.I cycles – I.U.I & I.V.F cycles.

The advantages are, in this way, we are providing medical, psychological, emotional, economic services.

If we can predict an unsuccessful cycle and inform the Patient prior to embryo transfer then wastage of embryos and money can be saved as well as we can protect the Patient from further disappointment.

MATERIALS AND METHODS

Materials:- We started our original and honest study after getting permission from our ethical committee. It was an

extensive study over a span of four and half years (2010-2014) over 710 Patients. The Patients are coming from all over West Bengal like Kolkata, North & South 24 Parganas, Howrah, Hoogly, Burdwan, Midnapore, Malda, Murshidabad, Nadia.

After taking consent from all the Patients (both husband & wife), they were interviewed to collect demographic data like age, sex, religion etc and basic questions were asked like –

1. For how long they are married and trying for pregnancy.
2. Is there any male factor.
3. Detailed description of menstrual cycle.
4. Is any medical condition associated like hypertension, diabetes, alcoholism etc.

METHOD

We followed the study of Michael Applebaum. ¹MD & took into account Uterine Biophysical Profile (UBP).

We followed the Uterine scoring system for reproduction (U.S.S.R) comprising of:-

*Corresponding author: **Irاندati Mukhopadhyay**
Department of Radio-Diagnosis, KPC Medical College

1. Endometrial blood flow.
2. Endometrial layering (5 line appearance).
3. Endometrial thickness. (Measured from myometrial – endometrial junction to endometrium myometrium junction.)
4. Myometrial contraction.
5. Myometrial echogenecity.
6. Myometrial flow.
7. Uterine artery Doppler flow evaluation.

Absence of male factor. ^{11 - 15, 19-20}

Results are like this:-

Table 1 Spontaneous Cycle (non-I.U.I. & non I.V.F) No = 450

Score	No.	Pregnancy	Percentage
20	45	37	82 %
17 – 19	186	139	74 %
14 – 16	190	94	49 %
< 13	29	1	4 %

The scoring system is like this:- ¹⁻²

Endometrial Thickness

- A. <7 mm = 0
- B. 7 – 9 mm = 2
- C. 10 – 14 mm = 3
- D. 14 mm = 1

Endometrial Layering

- A. No layering = 0
- B. Hazy 5 line appearance = 1
- C. Distinct 5 line appearance = 3

Myometrial Contraction (Wave like motion)

- A. < 3 contraction in 2 min = 0
- B. = 3 contraction in 2 min = 3 (real time)

Myometrial echogenecity

- A. Coarse/inhomogeneous = 1
- B. Relatively homogeneous echogenecity = 2

Uterine artery Doppler flow

- A. P.I. > 3.02 = 0
- B. P.I. <2.5 – 2.99 = 0
- C. P.I. <2.2 – 2.49 = 1
- D. P.I. < 2.19 = 2

Endometrial blood flow within 2 and 3

- A. Absent = 0
- B. Present, but sparse = 2
- C. Present mulifocally = 5

Myometrial blood flow internal to the arcuate vessel seen on gray scale

- A. Absent = 0
- B. Present = 2

RESULTS

[Experience at KPC Medical College]

At our college we followed the Applebaum criteria.

Following were under consideration. ^{3 - 5 & 6} Technically adequate Ultra-Sound Examination, no uterine shape/development abnormality.

Table 2 COH + IUIN = 210 No = 210

Score	No.	Pregnancy	Percentage
20	30	25	83 %
17 – 19	120	69	58 %
14 – 16	55	28	50 %
< 13	5	0	0 %

Table 3 I.V.F = I.C.S.I. N = 50

Score	No.	Pregnancy	Percentage
20	20	4	20 %
17 – 19	22	2	9 %
14 – 16	7	1	14 %
< 13	1	0	0 %

Table 4 Overall

Score	Percentage
20	70 %
17 – 19	61 %
14 – 16	48 %
< 13	3 %

DISCUSSION

Previously a study in Agra Malhotra Test Tube baby centre was conducted.

They had a study with a perfect score of 20 - out of 80 cases total of 20 : 54 conception.

With score 17 to 19, conception ratio 79% (spontaneous), 60% in IUI, 80% in IVF.

With score 14 to 16 conception of 44% in spontaneous 54% IUI and 20% IVF.

Score 13 and less only one pregnancy in spontaneous and 1 in IUI.

In KPC Medical College –

We had spontaneous, I.U.I & I.V.F cycles.

1. With a perfect score of 20 we had 95 cases with 66 conception.
2. With score of 17 to 19 we have total 328 cases with 74 % conception in spontaneous cycle 58% in I.U.I 9% in I.V.F cycle.
3. With score 14 to 16 we have total 252 cases with 49% conception in spontaneous cycle 50% in I.U.I 14% in I.V.F.
4. With score <13 we have only 1 pregnancy in spontaneous cycle out of total 35 cases.

CONCLUSION

This conception prediction system by scoring method is accurate though a little variations is expected from time to time

and place to place. Transvaginal study with uterine biophysical profile & uterine scoring system of reproduction is a simple reliable, inexpensive effective method to evaluate endometrial receptivity and predict pregnancy.

References

1. Applebaum M, Cadkin AV. Decidual flow - an early sign of pregnancy. *Ultrasound Obstet Gynecol* 1992;2:65(abstract).
2. Applebaum M. Ultrasound visualization of endometrial vascularity in normal premenopausal women. (submitted)
3. Applebaum M. Ultrasound visualization of endometrial vascularity in IVF patients and outcome. (submitted)
4. Buster JE, Bustilo M, Rodi IA, *et al.* Biologic and morphologic development of donated human ova recovered by nonsurgical uterine lavage. *Am J Obstet Gynecol* 1985;153:211-17.
5. Cadkin AV, Applebaum M. Ultrasonographic visualization of endometrial vascularity with ectopic pregnancy. *Am J Obstet Gynecol* 1991;165:236.
6. Croxatto HB, Diaz S, Fuertealba BA, *et al.* Studies on the duration of egg transport in human oviduct. *Fertil Steril* 1972;23:447-58.
7. Fleischer AC, Kalemeris GC, Entman SS. Sonographic depiction of the endometrium during normal cycles. *Ultrasound in Med Biol* 1986;12:271-277.
8. Fleischer AC, Kalemeris GC, Machin JE, Entman SS, Everett AE Jr. Sonographic depiction of normal and abnormal endometrium with histopathologic correlation. *J Ultrasound Med* 1986;5:445- 452.
9. Fleischer AC. Ultrasound imaging - 2000: Assessment of utero- ovarian blood flow with transvaginal color Doppler sonography; Potential clinical applications in infertility. *Fertil Steril* 1991;55:684-691.
10. Giudice LC. Potential biochemical markers of uterine receptivity. *Hum Reprod* 1999; 14 (Suppl 2):3-16.
11. Goswamy RK: Doppler ultrasound in infertility. In: Mashiaeh S, Ben-Rafael Z, Laufer N, Schenker JG, eds. *Advances in Assisted Reproductive Technologies*. New York; Plenum Press, 1990;533- 539.
12. Hertig AT, Rock J, Adams EC, A description of 34 human ova within the first 17 days of development. *Am J Anat* 1956-98:435 – 91.
13. Laird SM, Tuckerman EM, Dalton CF, *et al.* The production of leukemia inhibitory factor by human endometrium: Presence in uterine flushings and production by cells in culture. *Hum Reprod* 1997;12:509-74.
14. Long MG, Boulton JE, Hanson ME, Begent RHJ. Doppler time velocity waveform studies of the uterine artery and uterus. *Br J Obstet Gynaecol* 1989;96:588-593.
15. Psychoyos A. Hormonal control of uterine receptivity for ritation *J Reprod Fertil* 1976;25 (supp.):17-28.
16. Steer CV, Campbell S, Pampiglione JS, Kingsland CR, Mason BA, Collins WP. Transvaginal color flow imaging of the uterine arteries during the ovarian and menstrual cycles. *Hum Reprod* 1990;5:391-395.
17. Steer CV, Campbell S, Tan SL, *et al.* Transvaginal color Doppler: A new technique for use after in vitro fertilization to identify optimum uterine conditions before embryo transfer. *Fertil Steril* 1992;57:372-376.
18. Tessler FN, Schiller VL, Perrella RR, Sutherland ML, Grant EG. Transabdominal versus endovaginal pelvic sonography: prospective study. *Radiology* 1989;170:553-556.
19. Thickman D, Arger P, Turek R, Biasco L, Mintz M, Coleman B. Sonographic assessment of the endometrium in patients undergoing in vitro fertilization. *J Ultrasound Med* 1986;5:197-210.
20. Welker BG, Gembruch U, Diedrich K, Al-Hasani S, Krebs D. Transvaginal sonography of the endometrium during ovum pickup in stimulated cycles for in vitro fertilization. *J Ultrasound Med* 1989;8:549-553.

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