

## PREGNANCY OUTCOME FOLLOWING ENCERCLAGE OPERATION USING ULTRASONOGRAPHY AND SCORING SYSTEM

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### SUMMARY

Repeated abortions and premature deliveries resulting in high death rate of foetus leads to deteriorations in health and shattering of hopes of a woman aspiring to be a mother. In present series, 100 cases of incompetent os were diagnosed by using USG scanning and scoring system of Block and Rahel (1976) and were evaluated for pregnancy outcome.

### INTRODUCTION

Incompetent os can be diagnosed by ultrasonography if measured diameter of internal os is 15 mm during first trimester and 20 mm or more during second trimester (Mehran, 1980). Block and Rahel (1976) reported the use of scoring system for selection of patients and as a prognostic index of pregnancy outcome. Patients with higher score had higher success rate. If we include both the criteria for diagnosing incompetent os and then treat them we can definitely achieve a higher success rate.

### MATERIAL AND METHODS

Present study was conducted on 100 patients who were clinically diagnosed as cervical incompetence and were attending Antenatal Clinic of J.L.N. Hospital, Ajmer for a period of one year.

All patients were evaluated during their antenatal period according to score system of Block and Rahel (1976) in which each of the following criteria was given a score of one.

1. Previous premature delivery of midtrimester abortion without obvious cause.

2. Visual evidence of previous surgical or obstetrical trauma to cervix.

3. History of painless premature labour

or rapid delivery.

4. Progressive dilatation or dilatation greater than 2 cm on initial examination.

5. Previous diagnosis of cervical incompetence with previous cerclage operation.

Ultrasonography was done in most of the cases to find out diameter of internal os, it added more accuracy in diagnosis.

Patients were then subjected to cerclage operation by Mc Donald's method (1988).

**OBSERVATIONS**

Maximum number of cases (54%) were of gravidity 3 and 4 as they had previous fetal wastage in the form of abortions and premature births. Their parity was Zero

(52%) and one (40%) out of 100 cases, that's why they were keen for treatment (Table 1).

As evident from table 2, maximum cases were operated at gestational age of 14-24 weeks (68%) which is an ideal time of intervention.

Table 3 shows pregnancy outcome of 100 cases in relation to score system devised by Block and Rahel (1976) before and after cerclage and success rate in each group.

In total group before cerclage there were 316 pregnancies with a fetal salvage ratio of 51, with a success rate of 16.14%. After cerclage operation success rate was 89% and 100% when score was five, which is statistically significant.

**Table I  
DISTRIBUTION OF CASES ACCORDING TO GRAVIDITY AND PARITY**

Gravida	Cases	Parity	Cases
2	16	0	52
3	31	1	40
4	23		
5	16		
6	06	2	08
7	08	3	00

**Table II**

Gestation Age in Weeks	Number of Cases
8 - 12	21
14 - 18	32
22 - 24	36
26 - 30	11

**Table III**  
**PREGNANCY OUTCOME BEFORE AND AFTER CERCLAGE**  
**OPERATION IN DIFFERENT SCORES AND**  
**SUCCESS RATE BEFORE & AFTER**

Score	Cases	BEFORE			AFTER			X <sup>2</sup>	P Value
		Total Preg.	Living Child	Success Rate	Total Preg.	Living Child	Success Rate		
2	13	17	03	17.65%	13	11	84.60%	43.84	0.001
3	52	159	25	15.72%	52	48	92.30%	54.29	0.001
4	31	123	20	16.26%	31	26	82.87%	46.66	0.001
5	04	18	03	16.66%	04	04	100.00%	59.00	0.001
Total	100	316	51	16.14%	100	89	89.00%	5.20	0.001

**Table IV**  
**FETAL SALVAGE RATIO**

Total Score	5.51
Score	
2	4.79
3	5.87
4	5.15
5	6.00

**Table V**  
**SUCCESS RATE IN 79 PATIENTS WITH USG**

Score	No. of Pregnancy	Viable Child	Success Rate
2	10	10	100.00%
3	45	42	93.33%
4	21	20	95.24%
5	03	03	100.00%
Total	79	75	94.94%

Success in Block and Rahel (1976) series was 21% before cerclage, which rose to 80% after operation. Vijaykar (1979) stated that success rate increase significantly with high scores, it was 8.13 before cerclage and 87.5% after operation.

Due to increase in post cerclage success rate there is definite increase in fetal salvage ratio which was 5.51 in present series (Table 4). Block and Rahel (1976) had ratio of 3.8 in their series and Khadilkar and Lopez (1988) reported it to be 4.91.

Success rate is definitely more in all the patients in whom both criteria for diagnosis were used. It was 94.94% in patients who had additional ultrasonography as compared to 89% who had only scoring system for diagnosis (Table 5).

In Khadilkar and Lopez series (1988) 48 out of 100 cases were diagnosed by ultrasonography and he claims a success

rate of 99.9% which can be compared with present series.

### CONCLUSION

Thus it can be concluded that surgical repair of incompetent os during pregnancy represents a major advance in the battle of obstetrician to reduce abortion and prematurity rate if diagnosis of incompetence of cervix is made accurately by using U.S.G. and scoring system.

### REFERENCES

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