

## INCOMPETENT OS - AN ANALYTICAL REVIEW OVER 4 YEARS 1986 - 1989

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### SUMMARY

Cervical Incompetence is a definite entity responsible for 16-18% of all second trimester abortions. It is a common cause of Habitual Abortion. Repeated episodes of abortions and premature deliveries result in high perinatal mortality, deterioration in health and shattering of hopes of women aspiring to be mothers. Our aim in doing a retrospective analytical study of incompetent OS was to understand better the pathophysiology, diagnosis and management of this rare but distressing condition. The study was aimed at evaluating the usefulness of cervical cerclage operation in these patients. In our series the overall foetal salvage rate improved from 29.21% before cerclage to 79.64% after cerclage. It was also found that the success rate was higher if cerclage was performed before 20 weeks of gestation.

### INTRODUCTION

Mann (1959) states "Incompetent Os should be regarded as a complex entity, the cause of which is not always certain, the diagnosis of which is not always easy and management of which is not always simple". However, on the basis of our current understanding of the pathophysiology of cervical incompetence and improved diagnostic methods, it is now possible to diagnose the patient with this condition at the earliest and give better treatment.

### MATERIALS AND METHODS

In the present series, 136 patients of in-  
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competent Os are studied. They were all diagnosed on the basis of repeated painless second trimester abortions or premature deliveries and had open internal Os on vaginal examination. From January 1986 to December 1989, 113 cases underwent cerclage operation, whereas the other 23 cases were detected in an advanced stage when cervix was more than half dilated and were in the process of aborting. All these patients were thoroughly investigated to rule out other causes of abortion.

### OBSERVATION AND RESULTS

The majority of patients were between 20-25 years of age. The maximum age was 32 years and minimum 17 years. The maximum incidence of cervical incompetence was seen in



third, fourth and fifth gravida. We had no primipara having cervical incompetence. The incidence in our series is 4.5/1000. The incidence as reported by various authors all over the world ranges from 1/1000 to as high as 10/1000. There is a definite increase in the incidence of cervical incompetence due to increase in number of surgeries performed on the cervix which may make a competent cervix incompetent. In our series 28 patients gave history of operation done on cervix. The type of operation and the number of patients in each group is shown in Table - I. Almost 80% of our patients gave no history of any operation in the past. Thus cervical trauma as a cause of cervical incompetence was low in our series. The foetal salvage rate before cerclage in our series was 29.21%. Most of our patients (89) had a patulous Os and in addition 66 patients had a short cervix (Table-II). Sixteen patients presented with bulging membranes, of which 15 went into inevitable abortion and could not be salvaged.

TABLE - I

## PAST OPERATIVE HISTORY

Operation	No. of Patients	Percentage
1. Dilatation and curettage	14	10.29%
2. Fothergills repair	2	1.47%
3. MTP	12	8.83%
4. No operative history	108	79.41%
<b>Total</b>	<b>136</b>	<b>100%</b>

TABLE-II

## EXAMINATION FINDINGS

Findings	No. of Patients
Short cervix	66
Patulous Os	89
Lacerated cervix	14
Bulging membrane	16

Pre-operatively all patients had undergone routine investigations and were given bed-rest with or without hormonal treatment and treatment of any vaginal infection if present. Hundred patients underwent McDonald operation with a success rate of 86% and 13 patients underwent Shirodkar operation with 10 patients going to or near term (76.92%) (Table-III). Table-IV clearly shows that the success rate with cerclage is much higher if performed before 20 weeks. This finding is similar to that of other workers. Barter et al (1963) had success rate of 81.4% when cerclage was done before 19 weeks and 73.9% when performed after 19 weeks. Robboy (1973) reported a success rate of 89% when cerclage was performed before 20 weeks and only 50% when performed after 20 weeks.

TABLE - III

## TYPE OF OPERATION

Type of Operation	No. of Cases	Successful Cases	Percentage
Macdonald	100	86	86%
Shirodkar	13	10	76.92%
Operation not done	23	0	0.0
<b>Total</b>	<b>136</b>	<b>96</b>	<b>81.46%</b>

Postoperatively patients were given complete bed-rest, with head low in lateral recumbency, sedation, tocolytic agents like isoxsoprine, either by intravenous drip or by intramuscular injections and followed later orally. All patients were given suitable antibiotics and covered with progesterone in the immediate pre and post operative period.

TABLE -IV

PERIOD OF GESTATION WHEN  
CERCLAGE PERFORMED

Period of Gestation	Operation Performed	Successful Cases	Percentage
12-16 Wks.	52	48	92.30%
16-20 Wks.	36	34	94.44%
20-24 Wks.	13	9	69.23%
24-28 Wks.	8	4	50.00%
More than 28 Wks.	4	1	25.00%
<b>Total</b>	<b>113</b>	<b>96</b>	<b>81.46%</b>

In our series, we find that there was 15.04 abortion rate and 15.04% premature delivery rate. The number of pregnancies reaching term was 69.92% (Table-V). Socol et al (1984) had 64% term pregnancy and 36% preterm delivery. There were no spontaneous abortions in their series. The foetal salvage rate in our series was 79.64 after cerclage operation thereby showing a remarkable improvement from 289.21% salvage rate before operation. Caesarean section was performed for 4 patients; 3 for foetal distress 1 for transverse lie and 80 delivered normally. Table VI shows birth weight of babies with only 10 patients delivering babies less than 2 kgs.

TABLE - V  
PREGNANCY OUTCOME IN  
CERCLAGE PATIENTS

Outcome	No. of Cases	Percentage
2nd Trimester abortions	17	15.04%
Cases reaching term	79	69.92%
Preterm deliveries :		
A) 32-36 Wks.	10	8.84%
B) Less than 32 Wks.	7	6.20%

TABLE - VI  
BIRTH WEIGHT

Birth Weight	No. of Cases	Percentage
Less than 2 Kg.	10	10.41%
2 - 2.5 Kg.	62	64.59%
2.5 - 3.0 Kg.	22	22.92%
3.0 Kg. and more	2	2.08%
<b>Total</b>	<b>96</b>	<b>100%</b>

### CONCLUSION

Shirodkar's and McDonald's operations are the most popular operations for the treatment of cervical incompetence Robboy (1973) reports 77.2% success rate with Shirodkar's operation and 80% success rate with McDonald's operation. Similarly in our series, the success rate with McDonald's and Shirodkar's operations are 86% and 76.92% respectively giving an



overall success rate of 81.46% (Table-III). The type of cerclage is individualised to cervical anatomy at the time of operation, previous successful treatments and whether future pregnancies are planned. If no anatomic defect is present, if the patient has received no treatment in previous pregnancies or if previous therapeutic cerclage has failed, a Shirodkar or McDonald operation should be done, allowing for operator's preference. Thus with the understanding of the pathophysiology, diagnosis and management, it is now possible to offer good hope to women who have been denied children as a result of

habitual abortion due to cervical incompetence.

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TABLE - VI  
RESULTS

Group	No. of Cases	Success
Shirodkar	10	8
McDonald	10	8
Total	20	16

DISCUSSION

The purpose of this study was to evaluate the results of the Shirodkar and McDonald operations in the treatment of cervical incompetence. The study was conducted over a period of five years and included 20 patients who had a history of habitual abortion due to cervical incompetence. The results of the study are shown in Table VI. The overall success rate was 81.46%.

Year	No. of Cases	Success
1978	5	4
1979	5	4
1980	5	4
1981	5	4
Total	20	16

CONCLUSION

The results of this study indicate that the Shirodkar and McDonald operations are effective in the treatment of cervical incompetence. The overall success rate was 81.46%. The study also indicates that the type of cerclage should be individualised to the patient's anatomy and previous treatment history.