THE EFFICIENCY OF THE CERVICAL CERCLAGE IN THE TREATMENT OF SECONDARY INFERTILITY

G A. Toth¹, Diana Maria Anastasiu¹, D. Anastasiu¹,²

SUMMARY: Introduction: A review of 145 cervical cerclage procedures in 145 women over a 3 year period has been conducted to compare the success and efficiency rate of the "Munteanu" technique in the treatment of cervical incompetence. Materials and methods: The retrospective study was conducted on 145 pregnant women over a period of 3 years (2009 - 2011) in which a therapeutic measure a cervical cerclage placement occurred. Results: Reported to the total number of births (7019) during the analyzed period resulted an incidence of 2.06% of the cervical cerclage placement. From all the cases only 5 couldn't be followed to see the outcome of the pregnancy. From the other 140 cases 11 (7.9%) had an abortion as an outcome, 27 (19.2%) ended with a preterm delivery and 102 (72.9%) were on term births. Conclusions: The "Munteanu" procedure for the cervical cerclage placement is a safe and easy to use technique, without heavy bleeding and has a high success rate in the treatment of cervical incompetence.

Keywords: cervical cerclage procedure, incompetent cervix, secondary infertility.

INTRODUCTION

The incompetent cervix whatever its origin is an important etiological factor for spontaneous abortions and premature births (1, 2)

Causes for the incompetent cervix can be pregnancies that had as an outcome, a requested abortion, an abortion in the second trimester, a premature birth or repeated abortions on request due to the numerous dilatations of the internal ostium of the cervix.

The cervix incompetence is also a etiological factor for recurrent pregnancy loss(7)

A solution for this issue is the cervical cerclage placement during the 16 - 17th week of pregnancy.(13,17) Such a procedure for the cervical cerclage placement was elaborated and described in the Bega Clinic for Obstetrics and Gynecology known today as the Munteanu cervical cerclage procedure.

Other studies made on different cervical cerclage procedure such as the Shirodkar or McDonald procedure had interpretable outcomes.
This study was conducted to obtain and estimate the results and outcome of those pregnancies which underwent a cervical cerclage placement using the Munteanu procedure. (16)

**MATERIAL AND METHODS**

A study made in the "Bega" hospital for Obstetrics and Gynecology during an 8 year period on 100 pregnant women with an Papernick score greater than 12 with an incompetent cervix went on with a cervical cerclage procedure was undertaken showed the fact that 91.4% of the patients undergoing this procedure during the 16 - 18th week of pregnancy gave birth during the 37 - 38th week of gestation and 8.61% had preterm births. From the study group that underwent an emergency cervical cerclage during the 21 - 27th week of pregnancy 71.42% ended with a spontaneous abortion before 24 weeks.

A retrospective study was conducted about the incidence of the incompetent cervix and the cervical cerclage placement. The data that was analyzed was obtained from the procedure register, patients chart, C-section register and birth register.

We analyzed a study group of 145 pregnant women during a 3 year period from 2009 - 2011. All were between 14 - 24 weeks pregnant and were diagnosed clinically and by ultrasound with an incompetent cervix and underwent a prophylactic or and emergency cervical cerclage procedure.

In those 3 years that were analyzed there were a total of 7019 births and on 145 of these a cervical cerclage procedure was undertaken resulting an incidence of 2.06% (Table 1.)

### RESULTS

From all the pregnancy's that underwent and cervical cerclage procedure, the outcome of 3.59% (n=5) is unknown. In those conditions the results were taken into account only for the 140 pregnancy with then known outcome.

In 62.3% (n=87) of all cases the procedure took place between 14 - 18 weeks of pregnancy and 37.7% (n=53) were made after the 19th week of pregnancy. In 12.1% (n=13) an emergency cervical cerclage was made after the 22nd week. (Table 2.)

Most cervical cerclage were placed on women with the age between 21 and 35, 30% (n=42) of those being between 31 - 35 years old. The incidence under the age of 20 was 7.8% (n=11) and the lowest incidence was for women over 40 years old representing 1.4% (n=2) from all cases. (Table 3.)

Taking into account the parity of the study group 70% (n=88) had not given birth yet and only one 0.7% (n=1) had multiple births. (Table 4.)

Although the incompetent cervix is frequently diagnosed on women witch gave multiple times birth. The incidence for cervical cerclage placement is linked to the refusal of the patient or not coming to the prenatal care consults where the incompetent cervix can be diagnosed.

<table>
<thead>
<tr>
<th>Year</th>
<th>Births</th>
<th>Cerclage</th>
<th>Incidence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2682</td>
<td>44</td>
<td>1.64%</td>
</tr>
<tr>
<td>2010</td>
<td>2328</td>
<td>50</td>
<td>2.14%</td>
</tr>
<tr>
<td>2011</td>
<td>2009</td>
<td>51</td>
<td>2.53%</td>
</tr>
<tr>
<td>Total</td>
<td>7019</td>
<td>145</td>
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Table 1. Cerclage incidence / year.

<table>
<thead>
<tr>
<th>&lt;14 weeks.</th>
<th>15 - 16 weeks</th>
<th>17 - 18 weeks</th>
<th>19 - 20 weeks</th>
<th>21 - 22 weeks.</th>
<th>&gt; 22 weeks.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr.</td>
<td>%</td>
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</tr>
<tr>
<td>2</td>
<td>1,4</td>
<td>29</td>
<td>20,7</td>
<td>56</td>
<td>40,2</td>
<td>18</td>
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</tbody>
</table>

Table 2. Study group by gestation week when the cervical cerclage was performed.

<table>
<thead>
<tr>
<th>&lt; 20 years</th>
<th>21 - 25 years</th>
<th>26 - 30 years</th>
<th>31 - 35 years</th>
<th>36 - 40 years</th>
<th>&gt; 40 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr.</td>
<td>%</td>
<td>Nr.</td>
<td>%</td>
<td>Nr.</td>
<td>%</td>
<td>Nr.</td>
</tr>
<tr>
<td>11</td>
<td>7,8</td>
<td>37</td>
<td>26,5</td>
<td>39</td>
<td>27,3</td>
<td>42</td>
</tr>
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Table 3. Study group by gestation week when the cervical cerclage was performed.

### Table 1. Cerclage incidence / year.
From all the pregnant women who underwent and cervical cerclage procedure, 7.9% (n=11) had as an outcome an spontaneous abortion before 24 weeks of gestation, 19.7% (n=27) were preterm births before 37 weeks and 72.9% (n=102) were on term births. (Table 6.)

Regarding to the gestation age when the pregnancy was finalized, 1.7% (n=2) occurred during the 25th - 26th week and 29th - 30th week of pregnancy, 0.7% (n=1) during 27th - 28th weeks, 6.2% (n=8) at 31 - 33 weeks and 74.4% (n=96) were on term births during the 38th - 40th week. (Table 7.)

From all 140 pregnancy's with a known outcome, 35.7% (n=46) were delivered naturally and 64.3% (n=83) through C-Section. (Table 8.)

From all 140 pregnancy that underwent a cervical cerclage procedure, 129 had as outcome a birth. From those 79.1% (n=102) were on term and 20.9% (n=27) were preterm between 25 - 37 weeks of gestation resulting an prematurity index of 20.9 %, this in the conditions that the prematurity index in the "Bega" Hospital oscillated between 7.86 - 11% and being 9.4% on average during those 3 years from 2009 - 2011. (Table 9.)

There were no complications during the placement of the cervical cerclage. Blood loss was around 35ml. No injuries on the cervix were reported. On 3.1% (n=4) were problems with take the thread out.
DISCUSSIONS

The Munteanu procedure for cervical cerclage placement is an easy to use procedure compared to other procedures described in the literature such as the Shirodkar and Macdonald procedure. The cervical cerclage procedure starts the suture from "2 o’clock" going counter clockwise. After the first step we will go with the needle through the same spot from where the needle came till we encircle the internal os.[3] The thread can be taken out at the beginning of labor other authors say that the thread should be taken out 15 days before the estimated date of birth. If the birth takes place through a C-Section, it is not mandatory to take the thread out because it is well tolerated by the patient.

The procedure is safe to use, causes minimal blood loss and no short or long time complications were indicated by the patient.

CONCLUSIONS

Reported to the total number of births (7019) during the analyzed period resulted an incidence of 2.06% of the cervical cerclage placement. From all the cases only 5 couldn’t be followed to see the outcome of the pregnancy.

From the other 140 cases 11 (7.9%) had an abortion as an outcome, 27 (19.2%) ended with a preterm delivery and 102 (72.9%) were on term births.

The Prematurity Index from the study group was 20.93% considering that the average index of prematurity in the 3 year period was 9.40%

The “Munteanu” procedure for cervical cerclage didn’t have any short nor long time complications.

The “Munteanu” procedure for the cervical cerclage placement is a safe and easy to use technique, without heavy bleeding and has a high success rate in the treatment of cervical incompetence.

References:

12. Harger JH., Cerclage and Cervical Insufficiency, An Evidence-Based Analysis. Obstet Gynecol;2002;100;1312-14