Original Article

Pregnancy Outcome Following Large Loop Excision of the Transformation Zone (LLETZ)

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Abstract

Objective: This study was undertaken to ascertain whether large loop excision of the transformation zone (LLETZ) for cervical intraepithelial neoplasia (CIN) has any adverse effect on subsequent pregnancy and labor. Method: Twenty five women who became pregnant following LLETZ were prospectively followed up and their case notes were analyzed for pregnancy and labor outcome. Results: There were 30 pregnancies in 25 women. The mean age was 26.2 years. Of the 30 pregnancy episodes, six were primigravidae and 24 were multigravidae. 46.7% of the pregnancies occurred within 6 months of LLETZ. Of the 23 cases where pregnancy continued after 12 weeks, cervical length was assessed by scan in 11 cases. The cervical length was less than 3cm in two cases. Cervical encerclage was carried out in six cases. 91.3% of the women delivered at term and 8.7% had preterm delivery. Conclusion: This study showed that LLETZ of the cervix was not associated with adverse pregnancy outcome.

Key Words: Large loop excision of transformation zone, pregnancy outcome, excisional methods

Introduction

In recent years LLETZ in the management of CIN lesions has gained wide popularity. Treatment of CIN lesions with ablative methods such as cryotherapy, electro coagulation and laser vaporization is not known to be associated with adverse pregnancy outcome. However, high grade CIN lesions necessitate more effective methods such as cold knife cone biopsy and LLETZ. These methods are effective and cervical tissue is available for histopathological examination to rule out invasive carcinoma. Conventional cold knife cone excision of the cervix is known to be associated with incompetence of cervix leading to adverse pregnancy outcome such as mid-trimester abortions. However LLETZ of the cervix seems to be a simple and effective method of managing CIN lesions and has not been reported to result in adverse pregnancy outcome in subsequent pregnancies. Therefore, the present study was undertaken to ascertain 1) Whether LLETZ has any adverse outcome in subsequent pregnancies and labor 2) To elicit whether any adverse outcome is related to the cone and 3) To see whether outcome can be improved by the use of encerclage in pregnancy.

Methodology

This was a prospective study of 25 women who became pregnant following LLETZ of the cervix. From the previous case records, the indication for LLETZ, the depth of cervical cone removed at the time of surgery, and
previous pregnancy complications such as miscarriages and pre-term labor were noted. Cases were followed up from the time of conception to delivery. Ultrasound scan for cervical length was carried out between 13-14 weeks of gestation in those women who have had previous pregnancy complications and those who have had more than one centimeter depth of cervical cone removed at the time of LLETZ. With normal non-pregnant cervical length being more than 2.5 cm, shallow cones (<1 cm) are unlikely to affect the competence of the internal cervical os. Therefore, routine TVS was not carried out to measure the length of the cervix, if the length of the cone removed was less than 1 cm. Cervical encerclage was carried out in those women in whom the cervical length was less than 3 cm. and in those with previous poor obstetric history. Intra partum events such as gestational age at delivery, mode of delivery, duration of first and second stage of labor and birth weight at delivery noted.

Results:

During the 3 year study period, a total of 30 pregnancies were reported in 25 women who had previously undergone LLETZ of the cervix. The mean age of the women was 26.2 years and the range was 22 to 31 years. Of the 30 pregnancies reported, six were primigravidae and 25 were multigravidae. Analyzing the indication for LLETZ showed that in 20 cases (80%) LLETZ was done for CIN III lesion; in two cases for CIN II and in three cases for persistent CIN 1 lesion. The depth of cone removed at the time of LLETZ was less than 0.5 cm in six cases (24%), between 0.5 cm to 1 cm in 12 cases (48%) between 1 to 1.5 cm in four cases (16%) and more than 1.5 cm in three cases (12%). The mean depth of cone was 1.06 cm and the range was 0.4 cm to 2 cm. (Table I)

Although it is difficult to interpret infertility following LLETZ, in our study 14 pregnancies (46.7%) occurred with in 6 months of treatment to the cervix. In the pervious obstetric history, a history of spontaneous abortion was seen in three women, and pre-term delivery in one woman. Analyzing the pregnancy outcome in current pregnancy, out of 30 pregnancy episodes, four women requested MTP with sterilization, and three pregnancies resulted in miscarriages at less than 12 weeks of gestation.

Of the 23 cases where pregnancy continued after 12 weeks, ultrasound scan to assess the cervical length was carried out in 11 cases. In four cases there were previous pregnancy complications and in 7 cases the depth of cone removed at LLETZ was more than 1 cm. The measured cervical length was less than 3 cm in two cases and 3-5 cm in nine cases.

Analyzing the correlation between the depth of cone and the cervical length by scan showed that out of the four cases where the depth of cone was more than 1 cm, the cervical length was adequate (3-5 cm) in 3 cases. In one case where the depth of cone removed was 0.5 cm

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<th>Depth</th>
<th>No.</th>
<th>%</th>
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<tr>
<td>&lt;0.5 cm</td>
<td>6</td>
<td>24</td>
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<td>0.5-1 cm</td>
<td>12</td>
<td>48</td>
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<td>1-1.5 cm</td>
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<td>16</td>
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<tr>
<td>&gt;1.5 cm</td>
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Table 1: Depth of cone removed at the time of LLETZ (N=25)

Cervical encerclage was carried out between 13-16 weeks in six women, and of these, in two cases the cervical length was less than 3 cm by scan and in the other four cases there was either pervious history of miscarriage or pre-term delivery. There were no postoperative complications. In these six women who had encerclage the sutures were removed at 38 weeks and all of them went into spontaneous labor.

On analyzing the antenatal problems, two women had pre-term delivery at 36 weeks. In one case USG at 14 weeks showed cervical length to be 4.7 cms, therefore encerclage was not carried out. The other case presented with PROM at 36 weeks and subsequently had a normal delivery. Twenty one (91.3%) women delivered at term and two (8.7%) had pre-term delivery.