Hysteroscopic correction of a complete septate uterus using a balloon technique

T.Römer¹ and R.Lober
Department of Obstetrics and Gynaecology, University Hospital, Ernst Moritz-Arndt University, Wollweberstrasse 1, D-17487 Greifswald, Germany
¹To whom correspondence should be addressed

Hysteroscopic dissection of the corporal part of a complete uterine septum, sparing the cervical portion, was performed using a balloon introduced into the second cavity.

Key words: complete uterine septum/hysteroscopic metroplasty/incompetent cervix

Introduction
The septate uterus is one of the most common Müllerian anomalies and may cause infertility (American Fertility Society, 1988; Ludmir et al., 1990). Hysteroscopic metroplasty for partial septate uterus is generally simple and is widely used. When the septum is complete and two external orifices are present (class Va of The American Fertility Society Classification) (American Fertility Society, 1988), the dissection of the septum is more difficult. An isolated cervicovaginal malformation, septate vagina and bicervical non-septate uterus caused by a minor mesonephric defect, has recently been described (Candiani et al., 1996). Recently it was shown that the hysterosonography is a helpful method of examination in the diagnosis of septate uteri (Salle et al. 1996), but in the rare case of a complete septate uterus the whole range of diagnostic methods should be used to ensure an exact classification of the uterine malformation.

Our recommendations and those of other authors are to spare the cervical portion in order not to risk cervical incompetence in subsequent pregnancies (Daly et al., 1983; Rock et al., 1987). The dissection of the corporal portion of the septum can be difficult because the first connection between the two cavities is a ‘blind perforation’ and because distending medium is lost through the second cervix. To solve these problems we developed the use of the balloon technique for dissection of the corporal septum in cases of a complete uterine septum.

Materials and methods
In six patients, the diagnosis of complete uterine septum was confirmed by laparoscopy to exclude other types of uterine malformations (Table I). Diagnostic hysteroscopy was carried out in both cavities. Balasch et al. (1996) also described three cases of this uterine malformation in association with a longitudinal vaginal septum. In the present study, two cases of longitudinal vaginal septum were observed, which were resected in the same session.

In the greater cavity a hystereosectoscope (26 Ch., Storz GmbH Tuttlingen/BRD) was introduced after dilatation of the cervix (Figure 1). In the other cavity a balloon catheter (18 French) was introduced and the balloon inflated. This balloon catheter served as a means of orientation for the first perforation of the corporal septum, and prevented the loss of the distending medium through the second cervix. After perforation of the corporal septum using electrocautery, further dissection of the septum was possible with no problems, as for a partial uterine septum. The septum was preserved below the internal cervical os. Immediately after dissection of the septum, an intrauterine device was inserted into the newly reconstructed corpus uteri. Oestrogen therapy was administered to prevent fusion of the freshly cut septum and intrauterine adhesion formation. In one patient we observed a fundal perforation of the uterus, which was closed by laparoscopic suture. A primary Caesarean section was performed subsequent to the following term pregnancy.

In all cases, a second look hysteroscopy after 3 months showed the presence of a regular uterine cavity. In three of our six patients a successful term pregnancy was reported after dissection of the corporal septum (Table I). In the last weeks of these pregnancies we observed that the cervical septum functioned like a cerclage and helped to prevent premature birth. The remaining three patients have not yet achieved pregnancy.

Discussion
A complete uterine septum is a rare uterine malformation, and in the majority of cases only expert hysteroscopists will be confronted with this problem (American Fertility Society, 1988). In young women with a complete septate uterus with non-communicating hemicavity and haematometra, a hysteroscopic metroplasty can also be successfully performed. (Perino et al., 1995). Dissection of the cervical portion of the septum followed by dissection of the corporal portion is a relatively simple intervention (Vercellini et al., 1994). Vercellini et al. (1994) showed in a small study that this procedure resulted in a shorter operating time and less residual fundal notching than procedures sparing the cervical septum. It seems difficult to understand the reason for performing a more difficult surgical procedure which spares the cervical septum, but the aim of all hysteroscopic metroplasty is the prevention of subsequent abortions and premature birth. Our obstetrical experience in these patients after dissection of the corporal septum suggests that the spared cervical portion of the septum has an important function in the last months of pregnancy in the prevention of cervical incompetence and preterm birth.

Daly et al. (1983) have reported two cases of dissection of the corporal septum using a catheter or a tenaculum for orientation followed by dissection of the septum by scissors. Rock et al. (1987) used a technique comparable to our procedure, but they performed a prophylactic cervical suture...
Hysteroscopic correction of septate uterus

Figure 1. Balloon technique for hysteroscopic correction of a complete septate uterus.

Table I. Pre-, intra- and postoperative data for six patients with complete uterine septum

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Past history</th>
<th>Time of surgery (min)</th>
<th>Postoperative pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Primary infertility; longitudinal vaginal septum</td>
<td>50</td>
<td>Term pregnancy (Caesarean section)</td>
</tr>
<tr>
<td>28</td>
<td>Recurrent abortion (three abortions)</td>
<td>30</td>
<td>Term pregnancy</td>
</tr>
<tr>
<td>30</td>
<td>One abortion</td>
<td>25</td>
<td>–</td>
</tr>
<tr>
<td>23</td>
<td>One preterm birth</td>
<td>25</td>
<td>–</td>
</tr>
<tr>
<td>31</td>
<td>Recurrent abortions (three abortions)</td>
<td>30</td>
<td>Term pregnancy</td>
</tr>
<tr>
<td>24</td>
<td>Secondary infertility (one abortion)</td>
<td>20</td>
<td>–</td>
</tr>
</tbody>
</table>

at 16 weeks gestation. Because of the prophylactic cervical suture, the advantage of this technique of spared cervical incision could not be clearly demonstrated. Although Vercellini et al. (1989) could not show a positive effect of IUD insertion and postoperative oestrogen administration, we used these two adjuvants with good results for the prevention of intrauterine adhesions after septal dissection.

The described balloon technique offers the possibility of sparing the cervical septum during septum dissection in patients with a complete uterine septum. The good clinical results of our procedure lead us to favour this technique. Because a complete uterine septum is such a rare uterine malformation, a definitive recommendation can be given only after a randomized multicentre study. In all cases of a uterine septum, an indication for dissection must be critically proven because, even without intervention, term pregnancies have been reported.

References


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479