



Efficiency and safety of hyaluron derivate gel in prevention of adhesions after caesarean section

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Objective

The postoperative healing process in the abdominal cavity may be complicated by the formation of adhesions. Adhesions can cause both early and long-term pain, can affect bowel function and can reduce the chance of future pregnancies. As a form of prevention, several anti-adhesive agents can be used. Hyalobarrier gel applied during surgery inside the pelvis and abdomen is considered to be one of the best. It is a highly viscous gel obtained by the condensation of hyaluronic acid, a natural body substance. Owing to its properties, the gel creates a barrier against adhesions in the surgical site. It is completely absorbed within one month following the procedure.

Methods

The aim of this study was to confirm the efficiency of the agent in the prevention of postoperative adhesions after planned caesarean section and to verify its effect on healing of the surgical scar on the lower uterine segment. This was a prospective, single centre study. We included 173 pregnant women: 81 women with perioperative gel application and 92 women in the control group. Women were included on random basis. The set contained pregnant nulliparous women with 1st planned c-section delivery at the time of their due date period (37+0 to 41+0 weeks). Women who underwent previous surgical procedures on the uterus, any other abdominal surgery or those with a history of vaginal birth were excluded. We recorded the perioperative parameters important in the healing process. Follow-up examination was carried out at 3 and 6 months following the procedure: at the first check-up an ultrasound scan was performed, at the second check-up an ultrasound scan along with gynaecological examination. During these visits a questionnaire based assessment of pain, general health and any concerns was carried out.

Results

3-6 months after the surgery, a vast majority of women reported none or minimal pain in the pelvic region and surgical site. During the pain scale evaluation (from 0 to 10), values over 3 were rarely obtained. The Hyalobarrier gel group showed better results, although with a low statistical significance level. Abdominal ultrasound examination 6 month post-surgery showed existence of niche in the scar in 73% of patients without gel application compared to 66% where gel was used. Asymptomatic dehiscence (wider than 50% of the uterine wall) was present in 28% of control and 23% of the gel group respectively.

Conclusion

Results of this study show a good efficiency and safety of the substance as well as minimal adverse effects. Ultrasound findings of niche are very frequent yet asymptomatic.