

Classical curettage versus Karman aspiration curettage. A comparative study

Abstract

The present study try to assess the difference between the classical curettage and Karman aspiration curettage in pregnancies between 6-8 weeks of amenorrhea or pregnancies stopped in evolution before 6-8 weeks. The study was developed on 200 women from Santerra Medical Center and Sana-Med Polyclinique from Constanta, between August 2011 and July 2016. The women were divided into 2 groups, the 1st Group (n=100) having classical uterine curettage and the 2nd Group (n=100) having Karman aspiration curettage. All the patients from the study have been adapted for a pre-counseling of the cervix with 600 ug prostaglandin E1 intra-vaginal administrated with 4 h before intervention. The characteristics like demographic variables, parity, gestational by grade and age were analysed. The demographic variables showed that the patients from the 2nd Group were not statistical different than the patients from the 1st Group (p=0.006). The distribution of parity from the 2nd Group seems not to differ from the 1st Group (p=1). The same results was obtained for gestational by grade (p=1). The distribution by age of the patients (p=1) and the difference of uterus scars between the 2 groups were also very similar (p=0.749). In the present study, for pregnancies stopped in evolution especially between 6 - 8 weeks, it is indicated the use of Karman curette instead of classical one, considering the lower risk of intrauterine debris.

Keywords: curettage, Karman, pregnancies, nulliparous

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Introduction

Early pregnancies by amenorrhea or pregnancies stopped in evolution represent a major problem nowadays⁽¹⁾. In many countries such events occurs in about 12% of all pregnancies^(2,3). The manual aspiration achieved for empty the uterine cavity was first achieved by Yuantai and Xianzhen^(4,5). Later, starting with 1970s Karman reconstituted the technique with the cannula implementation which could reduce the risk of perforation. This technique is effectiveness and easily performed which could reduce the complications that could appear by using the classical technique⁽⁶⁾. Some studies have shown that using Karman cannula can reduce both the substantial cost⁽⁷⁾ and the time of activeness⁽⁶⁾. The present study was aimed to compare the safeties of Karman technique in comparison with classical one.

Methods

The study was conducted on 200 women with pregnancies between 6 and 8 weeks of amenorrhea or pregnancies stopped in evolution between 6 and 8 weeks from the Santerra Medical Center and Sana-Med Polyclinique from Constanta, from August 2011 till July 2016. The women were divided into 2 groups, the 1st Group (n=100) having classical uterine curettage and the 2nd Group (n=100) having Karman aspiration curettage. All the patients from the study have been adapted with a pre-counseling of the cervical with 600 ug prostaglandin E1 administrated intra-vaginal with 4 h before intervention and the cervix dilatation was effectua-

ted until 9.5 Hegar score for all the patients. The study was approved by Ethical Board of both Santerra Medical Center and Sana-Med Polyclinique from Constanta, Romania. Two hundred women presenting pregnancies between 6-8 weeks of amenorrhea or pregnancies stopped in evolution before 6-8 weeks and no signs of septic abortion were included in the study. Patients with bleeding disorders, molar pregnancies, and pregnancies with more than 8 weeks were excluded from study. It were analyzed the demographic variables (i.e. urban versus rural environment), parity, gestational by grade and the age. Patients were assigned to undergo either classical or Karman aspiration curettage. Written informed consent was taken and the procedure and its complications were explained to the patients. The principal complications of the technique have been analyzed between the 2 groups which comprised the execution times and the tolerability of the technique of the patients. It was used 100 ml Tramadol i.m. with 30 minutes and 10 ml of 10% xiline pericervical before of inducing the technique. They were called after one week to see any signs of infection including pain in the lower abdomen, and fever. In case of any complication the management was achieved accordingly.

Statistically analysis

Characteristics of the study subjects were expressed in med ± SD and percentage. Student's t test for continuous variables was used to examine the significance. P values less that 0.5 were considered as significant.

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Results

The demographic variables have been showed to be very similar for both groups of patients (Table 1).

The demographic variables shows that the patients from the 2nd Group were not statistical different from the 1st Group patients ($p=0.006$). In Table 2 it can be seen the distribution on parity by grade of the patients from the 2 groups.

The distribution of parity from the 2nd Group seems not to differ from the 1st Group ($p=1$). The same results was obtained for gestational by grade ($p=1$, Table 3).

Regarding the intrauterine restriction of the debris from curettages there were recorded 1 patient by aspiration and 3 patients by classical techniques. The laceration of the cervix was not existing in the case of aspiration technique and only 2 (primiparous) by classic technique and the pain was seems to be more decreased in patients with aspiration than patients with classical technique (i.e.

10 for the patients by aspiration and 35 for the patients by classical technique).

There has been no other uterine perforative vezical or rectal complications. Moreover, there has been also no other case of shock at the time of application the Pozzy forceps. The pains in the first 48 h post-technique shows to be more in favor of Karman technique and the time of technique effectuation was 3.5 minutes for Karman aspiration and 7.5 minutes for classical technique.

The distribution of patients by age is related in Table 4. It was showed that the 2nd Group was not statistically different from the 1st Group ($p=1$).

The distribution of uterus scars was 18 with simple scars, 11 with double scars and none with triple scars in the 1st Group.

For the 2nd Group were 22 for simple scars, 13 for double scars and 2 with triple scars ($p=0.749$).

Table 1 Demographic variables of the patients

Groups	Rural environment	Urban environment	P value
1 st Group (n=100)	35	65	0.006
2 nd Group (n=100)	31	69	

Table 2 The distribution on parity (P) by grade of the patients

	1 st Group (n=100)	2 nd Group (n=100)	P value
0 P	23	26	1
I P	55	58	
II P	16	14	
III P	6	2	

Table 3 The distribution on gestational (G) by grade of the patients

	1 st Group (n=100)	2 nd Group (n=100)	P value
I G	19	17	1
II G	48	52	
III G	25	27	
>III G	8	4	

Table 4 The distribution of patients by age

Years	1 st Group (n=100)	2 nd Group (n=100)	P value
<18	5	7	1
18-30	62	64	
30-35	26	27	
35-40	5	2	
>40	2	0	

Discussion

The two studied groups exhibit considerable similarities, both in terms of the distribution of patients by demographic variables, age, parity and gestational by grade, including the number of uterus scar.

Interventions have shown a degree of risk perforation, given the large number of uterus scar (29% in the 1st Group and 35% in the 2nd Group) and the large number of nulliparous patients.

Although there were no complications of perforation, this could be explained by the fact of preparation before surgery with 600 µg prostaglandin E1. Important to note that the risk of their occurrence was significantly lower in the 2nd Group due to the cannula semisolid Karman (i.e. plastic) in which the terminal end has a blunt rounded being much lower than the classic scoop.

The discomfort of the techniques was much lower in the 2nd Group versus the 1st Group. Patients bear much better the Karman curette comparing with classical one and the aspiration seemed to be much better tolerated as scraping the uterine cavity.

In the 2nd Group the restriction of the debris from ovulation uterine cavity it was found in one case (i.e. which was resolved easily with utero-tonic medication) versus the 1st Group, in which it were found 3 cases, solved by medication utero-tonic medication, all cases loads occurring stopped in evolution.

Average times of execution of the technique were much lower for curettage aspiration versus classical curettage (i.e. almost half).

Preparing the cervix with 600 µg prostaglandin E1 vaginally administered was very important, and it believes that this step greatly decreased the shock or laceration risk maneuvers of cervical dilation. Therefore, this allowed further to better analyze phenomena strictly determined by the pain which were determined by the technique. It is important to note that over 60% of cases (i.e. from both groups) allowed the introduction of a Hegar no.8 d'amble.

Uterine emptying by using the new techniques like Karman was showed by many studies to have less complication rate, shortening the complication stay, reducing the cost and by utilization of fewer resources^(8,9).

Fonseca and contributors showed in a trial study on 30 patients with incomplete abortion that patients treated with such new technique needed 77% less hospital stay and consumed 41% less hospital resources than patients treated by normal technique⁽¹⁰⁾. Data from other study showed the effectiveness of the technique by having minimal complications, and less post-procedure infections⁽¹¹⁾.

Conclusions

The Karman aspiration curettage is less traumatic, being more rapidly effectuated and safer from the perforate point of view in comparison with classical curettage. The preparation of the cervix with prostaglandin E1 seems to be very important step by decreasing the perforation and laceration risk. In the case of pregnancies stopped in evolution especially between 6 or 8 weeks, it is indicated the use of Karman curette instead of classical one, considering the lower risk of intrauterine debris. ■

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