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Original Article

Comparative Study of Pfannenstiel Cesarean Section versus Misgav Ladach Cesarean Section in Anugrah Narayan Magadh Medical College and Hospital, Gaya, Bihar

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Abstract

Objective: The objective of the study was to assess the advantage of Misgav Ladach cesarean section in comparison to Pfannenstiel cesarean section.

Materials and Methods: The study was done over 12 months on 100 elective and emergency cesarean section.

Results: The duration of surgery, blood loss, and post-operative pain were significantly less in Misgav Ladach group.

Conclusion: Misgav Ladach technique of cesarean has many advantages and should be routinely used.

Key words: Cesarean section, Misgav Ladach, Pfannenstiel

INTRODUCTION

There is continuous search for new techniques in each operation. The technique should be safe, of short duration, simple, low cost, less post-operative morbidity and mortality.

Timonen *et al.* found that in Pfannenstiel cesarean section lag time to delivery was 8-10 min. On the other hand, Misgav Ladach Cesarean section offers the benefit of the incision to delivery interval being 4 min or less.[1] It is best for very common indication of cesarean section which is fetal distress. In this operation, there is minimal use of sharp instruments, so blood loss is minimum. Uterus is sutured in a single layer, which also reduces the duration and cost of surgery. Post-operative pain is also less.

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In view of the advantages claimed for the above technique, this study was undertaken to assess its efficiency, safety, duration, blood loss, need of suture material, and post-operative stay and to compare it with Pfannenstiel cesarean section in women undergoing primary cesarean section.

MATERIAL AND METHOD

All women posted for elective or emergency primary cesarean section were included in this study for common indication. They were divided into 2 Groups. 50 women went through Misgav Ladach and the other 50 went through Pfannenstiel cesarean section. Women with the previous cesarean section, obstructed labor, previous abdominal surgery, Placenta previa, Abruptio placenta, and rupture uterus were not included in the study. Informed consent was taken. All the operative procedure done was performed under spinal or general anesthesia. Operation time measured and blood loss was measured by used gauze, packs, and suction both. Suture material also counted. Pre- and post-operative care was similar in both groups.

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Table 1: Difference between the two techniques

Steps	Group 1 (Pfannenstial)	Group 2 (Misgav Ladach)
Type of skin incision	Pfannenstial	Joel Cohen
Subcutaneous tissue	Cut with scissors	Digital separation
Rectus sheath	Cut with scissors	Digital separation
Rectus muscle	Cut and separated	Opened by stretching
Peritoneum	Cut with scissors	Digital separation
Uterine incision	Cut with scissors	Digital separation
Uterine sutured	2 layers	One layers
Muscle sutured	No	No
Skin sutured	7-8	3 stitches

Table 2: Suture used and duration of surgery

Number of sutures used	Group 1	Group 2
Only one suture	5	45
2 suture	42	5
More than 2	3	
Mean duration operation (min)	30±2	19±3

Table 3: Blood loss

Blood loss	Group 1 (*n*=50)	Group 2 (*n*=50)
<250	5	25
250-500	25	15
500-750	12	5
750-1000	6	3
>1000	2	2

RESULT

Table 1 shows the difference between two techniques and Table 2 shows the duration of operation and suture material used. Shortest duration of surgery was 15 min in Group 1 and 11 minutes in Group 2.

Table 3 shows the amount of blood loss which is significantly less in Group 2. There were two women in each group with blood loss of more than 1000 ml, and one had blood transfusion in Group-1. Group-1 had double layer closure of uterus so more suture material was used. Post-operative pain was assessed by decreased use of analgesic in Group 2.

DISCUSSION

Every obstetric department has to evaluate the means of reducing the time for cesarean section. Reduction in operating time, reduced the incidence of post-operative febrile morbidity and fewer adhesions of subsequent cesarean section. The originator of Misgav-Ladach method of cesarean section at General Hospital in Jerusalem compared it to a Pfannenstiel cesarean section.[2] The amount of blood loss was decreased due to decreased use of knife and the technique also protects vessels. In the present studies, mean blood loss in Misgav Ladach technique was 294 ± 200 ml compare to Pfannenstiel group in which it was 455 ± 200 ml. Reduction in blood loss by the Misgav Ladach procedure has been previously shown by Darj and Nordstram[3] who in randomized study comparing 50 elective cesarean section reported the average bleeding with Misgav Ladach procedure to be for 448 ml and with Pfannenstiel procedure 608 ml. Moblization was earlier in Group 2 patient and also oral analgesic was less required in Group 2 patient.

CONCLUSION

In this way, we see that Misgav Ladach technique is suitable for both emergency and elective operation. The reduction in pain and the speed of recovery enables the mother to look after the newborn. Hence, we should use this technique at all centers.

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