

THE EFFECT OF INTRAPERITONEAL INSTILLATION OF BUPIVACAINE ON POSTOPERATIVE PAIN AFTER SURGICAL LAPAROSCOPY

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INTRODUCTION

Laparoscopic surgery is a novel method of access into the abdominal cavity. It involves the use of optics and electronic visualization equipment to replace a single large incision with several smaller incisions. Laparoscopy has an edge over conventional exploratory laparotomy, including a substantial minimizing in the size of the incision wound, decreased pain caused by the wound, decreased need for analgesia.

Despite that, post laparoscopic pain continues to impair quality of life and is a significant cause for postponed discharge or difficulty in returning to routine activities, up to 80% of patients endure significant pain and demand pain medication for their uncomfortable experience or distress.

Direct application of local anesthetic to the surgical area of interest can alleviate discomfort after laparoscopy, interest in using topical peritoneal medicines has grown during laparoscopic surgery. Hence the rationale of our study will be instilling local anesthetic- bupivacaine- in the peritoneal cavity in a certain dose to cause the blockade of peritoneal nerves conducting pain signals from our area of surgical interest in different laparoscopic procedures and study this effect on pain scores and patient satisfaction in the postoperative period.

AIM OF THE WORK

The aim of this study was to Evaluate the efficacy of instilling bupivacaine intraperitoneal in reducing postoperative pain after surgical laparoscopy for gynecologic procedures.

SUBJECTS AND METHODS

This randomized controlled study was conducted on 120 women who were scheduled for surgical laparoscopy at the endoscopy unit at El Shatby University Hospital. All patients were subjected pre-operatively to complete history taking, complete general and pelvic examination. Upon laparoscopy, cases group were instilled with intra-peritoneal 40 ml bupivacaine 0.2%, after laparoscopic procedure before removing trocars while control group didn't receive the drug.

Assessment of the postoperative pain at 2h, 8h ,24h respectively by visual analogue score (VAS), timing -in hours-of analgesia initiation postoperatively, frequency of analgesic need, and finally timing-in hours- of mobility initiation postoperatively was done by data collector.

RESULTS

Table1: Comparison between the two studied groups regarding the score at different period of follow up.

	Group A “patients” “n=60”	Group B “Control” “n=60”	P value
Score 2h.			
Range	1-3	3-7	0.001*
Mean	2.4	4.97	
SD	0.5	0.90	
Score 8h.			
Range	2-4	3-5	0.001*
Mean	2.8	3.98	
SD	0.9	0.77	
Score 24h			
Range	2-3	2-4	0.022
Mean	2.4	2.65	
SD	0.5	0.61	

Table 1 shows that VAS score in group (A) at 2 hours ranged from 1-3 with a mean of 2.4 while in group (B) ranged from 3-7 with a mean of 4.97. There was a statistically significant difference between both groups regarding VAS score at 2 hours (P=0.001).

Additionally, VAS score in group (A) at 8 hours ranged from 2-4 with a mean of 2.8 while in group (B) ranged from 3-5 with a mean of 3.98 .There was statistically significant difference between both groups regarding VAS score at 8 hours (P<0.05).

Furthermore, VAS score in group (A) at 24 hours ranged from 2-3 with a mean of 2.4 while in group (B) ranged from 2-4 with a mean of 2.65. There was no statistically significant difference between both groups regarding VAS score at 24 hours (P>0.05).

Table2: Comparison between the two studied groups regarding the 1st mobility time (hrs).

	Group A “patients” “n=60”	Group B “Control” “n=60”	P value
1st mobility time (Hrs)			
Range	1-4	4-8	0.001*
Mean	2.7	4.76	
SD	0.9	0.89	

Table 2 shows that time till first mobility in group (A) ranged from 1-4 hours with a mean of 2.7 hours while in group (B) ranged from 4-8 hours with a mean of 4.76 hours. There was a statistically significant difference between both groups regarding time till first mobility (P=0.001).

Table3: Comparison between the two studied groups regarding first analgesia requested postoperative.

1st analgesia required	Group A		Group B		X ²
	No	%	No	%	P value
Not required	34	56.66	10	16.7	20.669
Required	26	43.34	50	83.3	0.001*
1st analgesia request (hours)					0.001*
Range	4-8		0.5-2		
Mean	5.4		1.09		
SD	1.19		0.36		
Frequency in 24h.					
Once	17	65.38	22	36.7	4.448 0.108
Twice	6	23.07	24	40.0	
3 times	3	11.53	4	6.7	

Table 3 shows that analgesia request in group (A) was 56.6% of patients didn't request analgesia while in group (B) 16.7 % of patients didn't request analgesia. There was a statistically significant difference between both groups regarding analgesia request (P=0.001). Additionally, time passing postoperative till first analgesia request in group (A) ranged from 4-8 hours with a mean of 5.4 hours while in group (B) ranged from 0.5-2 hours with a mean of 1.09 hours. There was a statistically significant difference between both groups regarding time passing till first analgesia request (P=0.001). Furthermore, analgesia frequency during 24 hours, in group (A) was less than group (B). Regardless, there was no statistically significant difference between both groups regarding frequency of analgesia 24 hours (P>0.05).

CONCLUSION

Considering the current findings, we can conclude that intraperitoneal instillation of Bupivacaine after laparoscopic procedures causes significant analgesia at 2&8 hours postoperative, facilitate return of mobility faster and reduce analgesic consumption in the postoperative period.