

ISSP Block Efficacy Report

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R version 4.5.1 (2025-06-13) was used to conduct the analysis. Visual Inspection and Shapiro-Wilk test were performed to assess normality of data to determine the appropriate statistical tests. Data not normally distributed was presented by a median and interquartile range, and Mann-Whitney U test was used to compare between groups of data not normally distributed. Categorical data were presented with frequencies and an appropriate Chi-squared test or Fisher exact test was used for the comparison. Time to first pethidine administration was evaluated using Kaplan–Meier survival curves and compared between groups with the log-rank test. P value <0.05 was considered statistically significant.

Results

44 patients were enrolled in the study. Table 1 represents different patients' demographics.

Table 1

Characteristic	Control group N = 22 ¹	ISSP Block group N = 22 ¹	p-value ²
Age	54 (49, 58)	54 (44, 61)	0.9
Weight(Kg)	88 (79, 98)	82 (72, 90)	0.026
Hight	164.0 (162.0, 167.0)	163.5 (159.0, 169.0)	0.9
Sex			0.8
Female	8 (36%)	7 (32%)	
Male	14 (64%)	15 (68%)	

¹Median (Q1, Q3); n (%)

²Wilcoxon rank sum test; Pearson's Chi-squared test

4 patients in the ISP group required postoperative rescue pethidine compared to 14 patients in control group (P = 0.002). The median (quartiles) of total postoperative rescue pethidine consumption was significantly lower in the ISP group [0 (0–0 mg)] compared to that of the control group [85 (0–100 mg)]; P < 0.003). (Table 2). The median (quartiles) of intraoperative fentanyl consumption in the ISP group [100 (100–100) µg] was significantly lower compared to that of the control group [100 (100–150 µg); P = 0.044].(Table 2) Risk ratio for the need of postoperative pethidine in ISSP group compared to control is 0.29(0.11 , 0.73) indicating the significant protective effect.

Table 2

Characteristic	Control group N = 14 ¹	ISSP Block group N = 4 ¹	p-value ²
Needed of Pethidine Post Operative			
1	14 (100%)	4 (100%)	
Time of Pethidine Post Operative (min)	60 (30, 60)	180 (75, 360)	0.12
First Dose of Pethidine Post Operative (mg)	30 (30, 40)	30 (30, 35)	0.8
Total of Pethidine Consumed Post Operative (mg)	100 (90, 100)	95 (75, 110)	0.7
Intraoperative Fentanyl Consumption (microgram)	100 (100, 100)	100 (100, 100)	0.4

¹n (%); Median (Q1, Q3)

²NA; Wilcoxon rank sum test

The ISSP Block group demonstrated lower median pain scores at multiple postoperative time points, with statistically significant differences at 1 hour (3.50 vs 4.00, p=0.025), 8 hours (3.00 vs 4.00, p=0.007), and 12 hours (4.00 vs 5.00, p=0.009) post-surgery. However, after applying Bonferroni correction for multiple comparisons, none of these differences reached statistical significance (all q-values >0.05), suggesting that while the ISSP block showed a trend toward reduced pain in the early-to-mid postoperative period, the evidence was insufficient to confirm a definitive analgesic benefit at individual time points.(Table 3)

Table 3

Characteristic	Control group N = 22 ¹	ISSP Block group N = 22 ¹	p-value ²	q-value ³
Pre opr VAS score	4.50 (4.00, 6.00)	5.00 (4.00, 6.00)	0.7	>0.9
30 min post opt VAS	4.00 (3.00, 5.00)	3.00 (2.00, 5.00)	0.2	>0.9
1 h post opt VAS	4.00 (3.00, 6.00)	3.50 (2.00, 4.00)	0.025	0.3
2h post opt VAS	4.00 (2.00, 4.00)	3.50 (3.00, 6.00)	0.7	>0.9
4 h post opt VAS	4.00 (3.00, 5.00)	4.00 (3.00, 4.00)	0.5	>0.9
6h post opt VAS	4.00 (3.00, 5.00)	4.00 (2.00, 5.00)	0.4	>0.9
8h post opt VAS	4.00 (3.00, 5.00)	3.00 (2.00, 4.00)	0.007	0.087
12h post opt VAS	5.00 (4.00, 6.00)	4.00 (2.00, 5.00)	0.009	0.11
18h post opt VAS	4.00 (3.00, 5.00)	4.00 (2.00, 5.00)	0.5	>0.9

Characteristic	Control group N = 22 ¹	ISSP Block group N = 22 ¹	p-value ²	q-value ³
24h post opt VAS	5.00 (4.00, 5.00)	4.00 (2.00, 5.00)	0.14	>0.9
36h post opt VAS	5.00 (4.00, 5.00)	5.00 (3.00, 6.00)	>0.9	>0.9
48h post opt VAS	5.00 (4.00, 6.00)	4.00 (4.00, 5.00)	0.061	0.7

¹Median (Q1, Q3)

²Wilcoxon rank sum test

³Bonferroni correction for multiple testing

Fig.1 shows visual analogue scale of pain between groups at different time points.

Visual Analogue Scale of Pain between Groups at Different Time Points

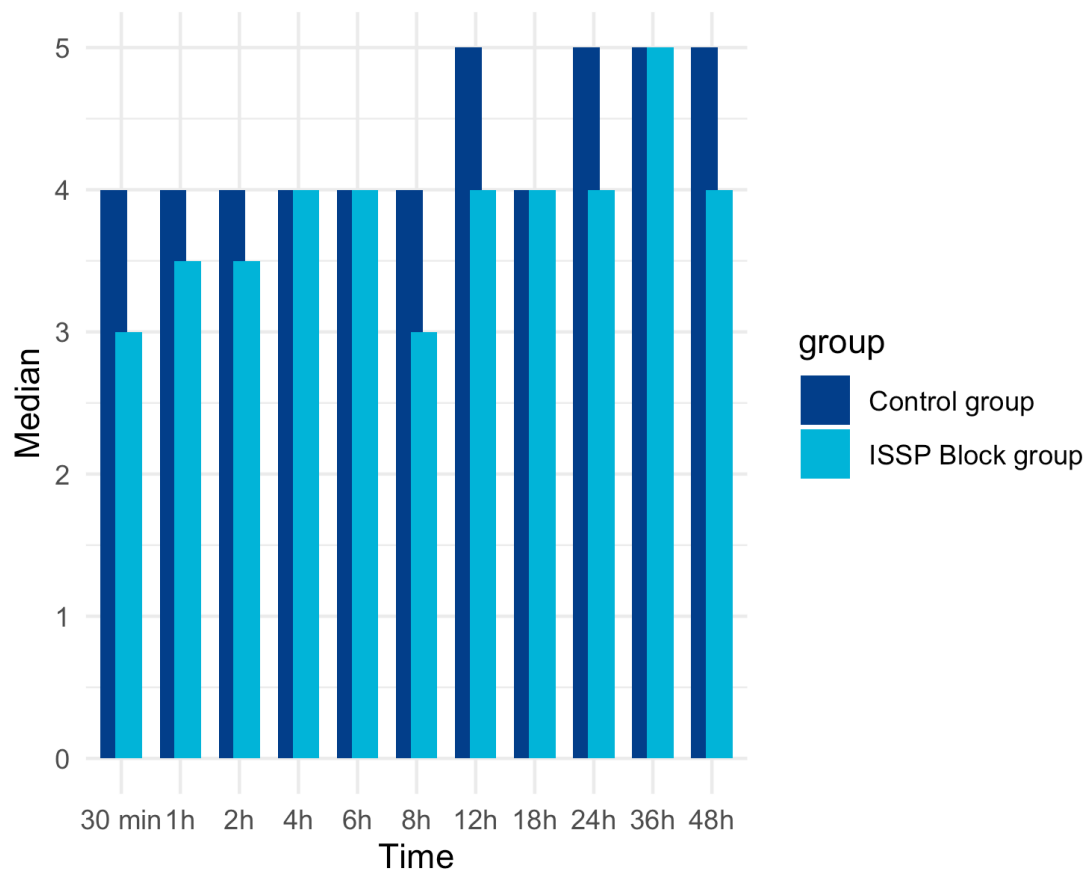
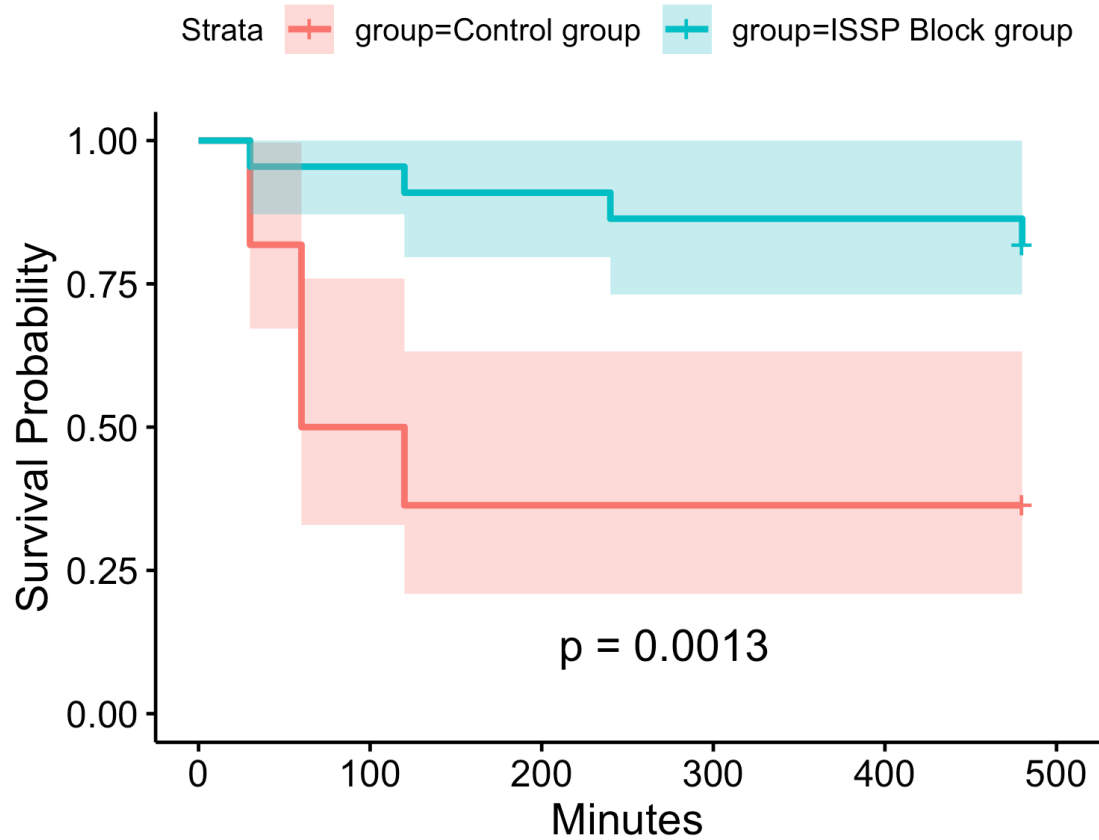


Fig. 2 shows the Kaplan–Meier curve for the time till first pethidine administration post operative. The median of time to first rescue pethidine administration was significantly longer in ISSP group ($p = 0.0013$).

Kaplan–Meier curve for the time till first pethidine administration post operative



No significant difference in any of the adverse events or complications was detected in the studied groups.(Table 3)

Table 3

Characteristic	Control group N = 22 ¹	ISSP Block group N = 22 ¹	p-value ²
Nausea	1 (4.5%)	1 (4.5%)	>0.9
Vomiting	0 (0%)	2 (9.1%)	0.5
Pruritis	0 (0%)	1 (4.5%)	>0.9
Any ADRs	1 (4.5%)	4 (18%)	0.3

¹n (%)

²Fisher's exact test

No significant difference in patient satisfaction between ISSP group and control group p(0.12).(Table 4)

Table 4

Characteristic	Control group N = 22 ¹	ISSP Block group N = 22 ¹	p-value ²
patient satisfification			0.13
dissatisfied	7 (32%)	5 (23%)	
fair	12 (55%)	8 (36%)	
satisfied	3 (14%)	9 (41%)	

¹n (%)

²Pearson's Chi-squared test