The primary outcome was the incidence of intra-operative shivering which was assessed by Bedside Shivering Assessment Scale. ⁽³⁾Patients who developed intraoperative shivering were given 25 mg IV tramadol.

Suez Canal University
Faculty of Medicine
Research Ethics Committee

Date: 10/5/2020

Dr. Eman Mohamed Abd El Azeem

Department: Anaesthesia and Critical Care, Faculty of Medicine, Suez Canal University Hospital

Reference: Research 40624

Thesis Title: Intrathecal Versus Intravenous Tramadol in Prevention of Post-Spinal Anaesthesia Shivering: Randomized Controlled Clinical Trial

Dear Dr,

Thank you for your letter in (23/4/2020) to ask for the ethical clearance previously given for the above mentioned protocol.

We are pleased to confirm that the above mentioned protocol of thesis was for the partial fulfillment of Master degree in Anaesthesia and Critical Care for Eman Mohamed Abd El Azeem, under the supervision of Prof. Mohamed Emad El-Din Abdel-Ghaffar and Dr. Shiman Ahmed Hamed El-Tawary

The proposal of the above mentioned protocol was reviewed by the full board Committee at its meeting on (21/1/2020) and the ethical clearance was given for that proposal.

Yours sincerely,

Prof. Amr Waleed
Chair of Research Ethics Committee
Faculty of Medicine
Suez Canal University

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Abstract 49 Figure 1

Abstract 49 Table 1 Patient characteristics of the two groups

Variables	Type of tramadol administration		p-value
	Intravenous tramadol (n=43)	Intrathecal tramadol (n=43)	
Age (years), mean $\pm$ SD	45.50 $\pm$ 11.53	48.07 $\pm$ 13.33	0.10 ^a
Gender, n (%)			
Male	24 (56.5)	26 (60.4)	0.66 ^b
Female	19 (43.5)	17 (39.6)	
Weight (Kg), mean $\pm$ SD	73.9 $\pm$ 12.3	79.3 $\pm$ 11.6	0.05 ^a
Height (m), mean $\pm$ SD	168.1 $\pm$ 1.9	169.5 $\pm$ 1.07	0.06 ^a
BMI (kg/m ²), mean $\pm$ SD	29.37 $\pm$ 4.64	30.53 $\pm$ 5.37	0.26 ^a
Incidence of shivering			
Absent N (%)	35 (81.4)	41 (95.4)	0.047**
present N (%)	8 (18.6)	2 (4.6)	

^a p-values are based on Mann-Whitney U test. Statistical significance at P < 0.05

^b p-values are based on Chi-square test. Statistical significance at P < 0.05

*Statistical significance at P < 0.05

Abstract 49 Table 2 Post-operative complications among the two groups

Variables	Type of tramadol administration		p-value
	Intravenous tramadol (n=43)	Intrathecal tramadol (n=43)	
Nausea			0.026 ^a
Present	12 (27.9)	4 (9.3)	
Absent	31 (72.1)	39 (90.7)	
Vomiting			0.39 ^b
Present	4 (9.3)	2 (4.6)	
Absent	39 (90.7)	41 (95.4)	
Hypotension			0.21 ^b
Present	2 (4.6)	3 (7)	
Absent	41 (95.4)	40 (93)	

^a p-values are based on Chi-square test.

^b Statistical significance at P < 0.05.

Results Shivering was observed in 8(18.6%) patients in intravenous group compared to 2(4.6%) patients in intrathecal group (P-value of 0.047).

Postoperative nausea occurred in 12(27.9%) patients in intravenous group versus 4(9.3%) patients in intrathecal group with a p-value of 0.026.

Conclusions Intra-thecal tramadol prevents post-spinal shivering without complications.

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THE USE OF SHORT-ACTING SPINAL ANAESTHESIA TO IMPROVE RECOVERY IN COLORECTAL SURGERY

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10.1136/rapm-2021-ESRA.50

Background and Aims Colorectal surgery has evolved to laparoscopic procedures with long-acting spinal anaesthesia and intrathecal opiates over epidural anaesthesia [1]. This has become the standard for enhanced recovery programmes across the world with good post-op analgesia [2]. However, due to the longer duration of action of spinal bupivacaine, there are increased risks of hypotension, delayed mobilisation and urinary retention [3]. This case-series presents the use of a short-acting prilocaine spinal anaesthetic in combination with intrathecal opiates and abdominal wall blocks, which successfully provide sufficient analgesia whilst promoting enhanced recovery in laparoscopic colorectal surgery.

Methods Twenty patients undergoing laparoscopic colorectal surgery were included. These patients received 3 ml of intrathecal 2% hyperbaric prilocaine combined with 500micrograms of diamorphine combined with rectus sheath and transversus abdominis plane (TAP) blocks with 80 ml 0.125% levobupivacaine as part of the enhanced recovery protocol.

Results Intraoperatively, patients were observed to be more haemodynamically stable and post-operatively, all patients' blood-pressure readings had returned to pre-operative levels without the need for any vasopressor support. In the recovery area they were comfortable, with pain scores of 0, and were able to sit-up and ambulate faster without any vasovagal episodes.

Conclusions We have successfully shown that the action of prilocaine can be prolonged by the addition of multimodal analgesia including long-acting interfascial plane blocks. We suggest that it's use offers increased haemodynamic stability and earlier patient mobilisation post-operatively. This modified technique allows excellent long duration analgesia

without the side effects of a long-acting spinal block and makes it more favourable in modern enhanced recovery programmes.

51 HEMODYNAMIC STABILITY BETWEEN SPINAL AND GENERAL ANAESTHESIA IN PATIENT UNDERGOING PRIMARY TOTAL KNEE ARTHROPLASTY: A RETROSPECTIVE STUDY

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10.1136/rapm-2021-ESRA.51

Background and Aims Total knee arthroplasty is a very common surgical procedure in daily practice and its number is constantly increasing. Some studies have reported that general anaesthesia was associated with greater hemodynamic instability, but this paradigm has since been disputed. The aim of this study is to evaluate intraoperative hemodynamic stability during total knee arthroplasty according to the type of anaesthesia. The hypothesis is that hemodynamic stability is better preserved during spinal anaesthesia (SA) compared to general anaesthesia (GA).

Methods Adults undergoing primary total knee arthroplasty were retrospectively selected over a period of 10 years. Primary outcome was the presence of a hemodynamic instability defined by a norepinephrine infusion started when the variation of patient's blood pressure exceeded 30% of its baseline value for more than 5 minutes. Secondary outcomes included mean intraoperative dose of ephedrine, mean blood loss, and mean volume of fluid administered. Demographic data and anaesthetic strategy were extracted. Patients receiving SA versus GA were compared for the different variables.

Results Demographic data are displayed in table 1. Patients under SA received less ephedrine ($p<0.0001$), less infusion of norepinephrine ($p<0.0001$) and less intraoperative fluids ($p<0.0001$) than patients under GA, while blood loss was similar between groups ($p=0.29$) (table 2).

Abstract 51 Table 1 Baseline characteristics of all patients according to the Anaesthetic Strategy. (Data presentation either by the absolute number and its percentage for categorical values (Pearson test) or by the mean and the 95% confidence interval for continuous values (Student test))

	General Anaesthesia (n=685, 41.0%)	Spinal Anaesthesia (n=984, 59.0%)	Total (n=1669, 100.0%)	p-value
Sex				
Female	446 (64.9)	555 (56.5)	1001 (60.0)	
Male	241 (35.1)	427 (43.5)	668 (40.0)	0.0006
Age [years]	69	70	69	
	68–69	69–70	69–70	0.02
Height [cm]	165	167	166	
	165–166	166–167	166–167	0.21
Weight [kg]	82	83	83	
	81–83	82–84	82–83	0.32
BMI [kg/m²]	30	30	30	
	30–30	29–30	30–30	0.68
ASA class				
I	28 (4.1)	52 (5.3)	80 (4.8)	
II	469 (68.3)	631 (64.3)	1100 (65.9)	
III	189 (27.5)	297 (30.2)	486 (29.1)	
IV	1 (0.2)	3 (0.2)	3 (0.2)	0.34
Nervous Block				
No	25 (3.6)	9 (0.9)	34 (2.0)	
Yes	660 (96.4)	975 (99.1)	1635 (98.0)	<0.0001
Surgical infiltration				
No	532 (77.7)	564 (57.3)	1096 (65.7)	
Yes	153 (22.3)	420 (42.7)	573 (34.3)	<0.0001

Abstract 51 Table 2 Intraoperative data according to the Anaesthetic Strategy. (Data presentation either by the absolute number and its percentage for categorical values) Pearson test) or by the mean and the 95% confidence interval for continuous values (Student test))

	General Anaesthesia (n=685, 41.0%)	Spinal Anaesthesia (n=984, 59.0%)	Total (n=1669, 100.0%)	p-value
Norepinephrine infusion				
No	615 (89.8)	947 (96.2)	1562 (93.6)	
Yes	70 (10.2)	37 (3.8)	107 (6.4)	<0.0001
Total Ephedrine dose [mg]	31	19	25	
	30–33	18–20	24–26	<0.0001
Intraoperative blood loss [mL]	416	402	408	
	397–436	386–419	395–421	0.29
Intraoperative fluid intake [mL]	866	734	789	
	842–891	715–753	773–804	<0.0001

Conclusions Patients under SA have a better intraoperative hemodynamic stability, as they required less vasopressors than patients under GA.

52 LOSS OF CONSCIOUSNESS WITHOUT HEMODYNAMIC AND RESPIRATORY DISTURBANCES FOLLOWING SPINAL ANESTHESIA FOR CESAREAN SECTION: A CASE REPORT

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10.1136/rapm-2021-ESRA.52

Background and Aims Cesarean section is commonly performed under spinal anesthesia, as it is simple, rapid, safe, effective, and maintains maternal awareness. Total spinal anesthesia is a known complication manifested by loss of consciousness, severe bradycardia, hypotension, and respiratory arrest. We describe a case of an unconscious event following spinal anesthesia in the presence of stable hemodynamic and respiratory function.

Methods 21-year-old parturient, 150 cm, 60 kg, 40–41 weeks of gestation, primigravida, and premature rupture of membrane, scheduled for cesarean section. The patient was assessed with physical status ASA 2 (pregnancy), without any other medical illness. Spinal anesthesia was performed uneventfully, using a 27G spinal needle, at L3/L4 interspinous space, paramedian approach, with the patient in the left lateral decubitus position. Bupivacaine 0.5% heavy 12.5 mg was administered after cerebrospinal fluid flow was confirmed.

Results When obstetrician would make an incision, approximately 5 minutes following spinal anesthesia, the patient was unresponsive, and her pupil dilated. Hemodynamic status was stable, and no respiratory depression was observed. There were no complaints before the loss of consciousness. Supportive management was done, and the patient regained consciousness one and a half-hour after spinal anesthesia. The rostral spread of inadvertent injection of local anesthetics into subdural space is speculated.

Conclusions Loss of consciousness following spinal anesthesia in non-sedated patients with stable hemodynamic and respiratory function is uncommon, but it should be considered, and resuscitation equipment must always be available. When recognized, supportive treatment, especially airway management, is needed until patient regains consciousness, in accordance with the local anesthetic duration of action.