

# **DO CONTINUOUS RECTUS SHEATH BLOCKS REDUCE THE NEED FOR OPIOID ANALGESIA AND IMPROVE RECOVERY FOLLOWING MAJOR LAPAROTOMY?**

H Findley<sup>1</sup>, C Gravina<sup>2</sup>, N Smith<sup>3</sup>, K Blanc<sup>3</sup>

1.Consultant Anaesthetist/Acute Pain Lead, 2. Anaesthetics CT2 doctor 3. Acute Pain Specialist Nurse

Acute Pain Service, Ipswich Hospital, East Suffolk and North Essex Foundation Trust, Suffolk, UK

Correspondence to: helen.findley@ipswichhospital.nhs.uk

**Background:** One year ago, the majority of patients having a major midline laparotomy at our hospital received post-operative analgesia using an intravenous opioid patient controlled analgesia (PCA). Audit work in 2017 revealed patients were slow to mobilise, with only 53% of elective patients walking on day 1 and had a slow return of gastro-intestinal function, with 37% of patients taking at least day 6 to tolerate soft diet.

**Aims:** We aimed to improve analgesia, post-operative mobility and reduce opioid-related adverse effects on the gastrointestinal system for patient having a laparotomy.

**Method:** In October 2017 we introduced a package of multimodal intraoperative analgesia (including intrathecal diamorphine 300mcg, intra-operative ketamine 0.5mg/kg and magnesium 2g) for patients having laparotomies, with surgically placed rectus sheath catheters (RSC) for post-operative continuous rectus sheath blockade. The regimen used includes an initial bolus, infusion of bupivacaine 0.125% at 8-10ml/hr via an elastomeric pump and intermittent boluses of 0.25% levobupivacaine, by the acute pain team, for up to 5 days post operatively.

An ongoing prospective audit between October and July 2017 has collected data for all patients having emergency or elective (planned open or laparoscopic converted to open) laparotomy with this technique, looking at opioid requirements and functional recovery in first two post-operative days.

**Results:** Results are shown in Table 1.

Table 1. Outcomes in first 2 post-operative days in laparotomy patients managed using rectus sheath catheter technique between October 2017 and July 2018			
	ALL	EMERGENCY	ELECTIVE
<b>Number of patients</b>	92	61	31
<b>Number (%) using PCA opioid</b>	30 (33%)	23 (38%)	7 (23%)
<b>In patients not given PCA:</b>			
Number (%) needing <b>NO</b> parenteral opioids	47 (76%)	30 (79%)	17 (71%)
Number (%) needing <b>NO</b> oral or parenteral opioids	17 (27%)	10 (26%)	7 (29%)
<b>In all patients managed with and without PCA:</b>			
Number (%) who sat out of bed post-op day 1	57 (62%)	33 (54%)	24 (77%)
Number who walked on post-op day 1	43 (47%)	23 (38%)	20 (65%)
Number (%) who tolerated soft diet on day 1	35 (38%)	15 (25%)	20 (65%)
Number who walked on post-op day 2	71 (77%)	44 (72%)	27 (87%)
Number (%) who tolerated soft diet on day 2	60 (65%)	35 (57%)	25 (81%)

**Conclusions:** Post-operative continuous rectus sheath blockade using catheters and elastomeric pumps, in the context of multimodal intra-operative analgesia provides good analgesia and reduces

opioid requirements. Low rates of parenteral and oral opioid are needed in the post-operative period up to end of day 2 post-op even when patients are mobilising out of bed. Time to functional recovery of mobility and ability of tolerate soft diet was quicker than before the technique was introduced.