The effect of standardization of trans-layer infiltration technique on patient satisfaction and pain scores following caesarean section

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Introduction:

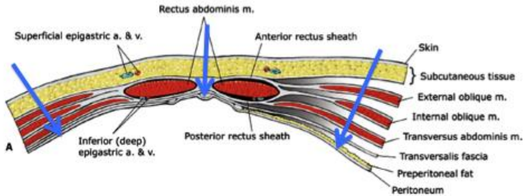
Pain relief after cesarean section has been shown to affect maternal wellbeing, reduce post surgical pain and improve mother child bonding.[1]

Methods:

We conducted a re-audit to evaluate the efficiency of trans-layer local infiltration of surgical wound following ceaserean section measured by pain score and patient satisfaction scores . Both audits were enrolled with the institution review board and approved. Prior to re-audit the block technique was standardised by ensuring that the surgeons watched a video of the block infiltration technique. The wound was infiltrated with 40ml of 0.25% Levobupivacaine in a 6 point infiltration into full thickness incision flap by the surgeons before closure. The data was collected prospectively using a standardized questionnaire that measured patient satisfaction scores , pain by numerical rating scale at 4, 12, 24 hours post op along with total doses of rescue analgesia taken by the patient .The data was collated and statistical significance tested using the Mann Whitney U test and Z test for proportions

LA infiltration :

6 Point full thickness infiltration into the medial and lateral quadrants on the LSCS incision wound.
Performed by surgeons using a blunt tip needle before closure
40ml of 0.25% Levobupivacaine was used for infiltration

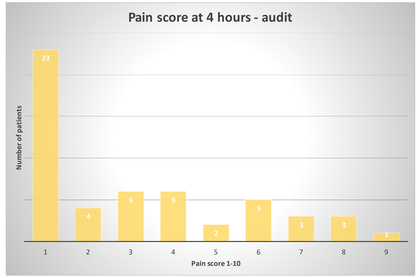


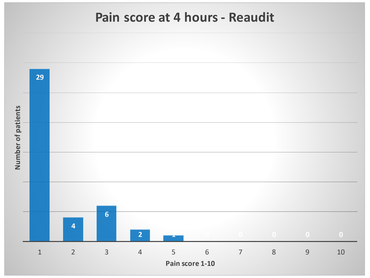
Results:

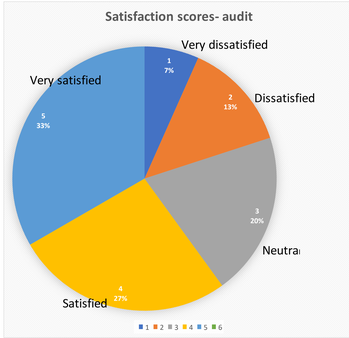
Parameter	Audit (n=53) MEDIAN (interquartile range)	Reaudit(n=42) Median(interquartile range)	Significance
Satisfaction scores	4(4-5)	5(4-5)	P=0.0027
Pain Score at 4 hours	2(1-5)	1(1-2)	P=0.0019
12 hours	4(3-5)	1(1-3)	P= 0.0001
24 hours	5(3-7)	2(1-3)	P=0.0001
Rescue analgesia	Proportion 28/43	34/41	P=0.0028

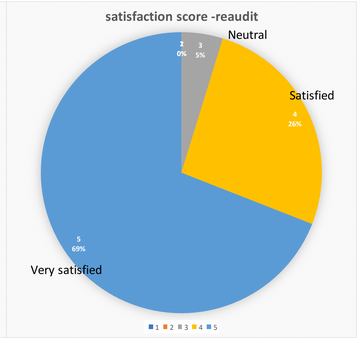
We found a significant improvement in patient satisfaction scores and the pain scores recorded at 4,12, 24 hours as shown in the table . However the number of patients that had rescue analgesia in the reaudit group was significantly different from the previous audit group. ($p<0.05$).This difference could be confounded by the fact that the protocol had changed from using intra-muscular morphine and tramadol as rescue analgesic when the audit was done to oral morphine and dihydrocodeine when it was reaudited.

Results









Discussion:

RCOA targets of best practice recommends that >95% of women should be satisfied with post op pain relief on the first post op day after a cesearean section. Standardising the technique of infiltration in combination with the use of oral morphine as rescue analgesia improved the satisfaction scores as compared to the previous audit. The trans-layer infiltration technique has been included in the PROSPECT guideline for cesarean section especially in patients who cannot have spinal diamorphine or in those having general anaesthesia[2]. We suggest the routine use of an easily administered block in a standardised fashion will improve patient satisfaction and improve pain scores

References:

1.Kainu JP, Sarvela J, Tiippana E, Halmesmaki E, Korttila KT. Persistent pain after caesarean section and vaginal birth: a cohort study. International Journal of Obstetric Anesthesia 2010; 19: 4–9.
2. E.Roofthooft,G.P.Joshi,N.Rawal,M.VandeVelde PROSPECTguideline for elective caesarean section:updated systematic review and procedure-specific postoperative pain management recommendations. Anaesthesia 2022, 76, 665–680doi:10.1111/anae.15339