Efficacy of Transverse Abdominis Plexus (TAP) Block For Iliac Crest Bone Graft (ICBG) Site Pain In Patients Undergoing Autologous Bone Harvest From Anterior Iliac Crest (AIC) For Cleft Palate Repair.

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AIM
Iliac Crest Bone Graft (ICBG) donor site pain is often more than primary operative site. The transversus abdominis plane (TAP) block permits a sensory block of the lower 6 thoracic and L1 ventral rami. We prospectively evaluated utility of TAP block for ICBG pain in patients scheduled for AIC graft for cleft palate repair.

METHOD
A prospective, single-blinded, randomized trial composed of two groups, Group A: TAP block; Group B: local infiltration with saline with 1:2,00,000 adrenaline at ICBG harvest site. With ethics board approval, parental consent, 60 ASA I, II patients scheduled for Cleft Palate surgery with AIC harvest for autologous bone graft were enrolled. General anesthesia induced, airway secured and anaesthesia maintained with 1 MAC halothane in air/O2 mixture.
TAP block was performed with 22-gauge one inch blunted-bevel needle with a “double pop-up” technique. A point midway between between iliac crest and subcostal margin in mid-axillary line was chosen as the point of entry and needle inserted at right angles to skin surface. Two “pops” or loss of resistances were encountered (fascial extensions of external oblique and internal oblique muscles). 0.75 ml/kg of mixture of equal volumes of 2% lignocaine with 1:2,00,000 adrenaline and 0.5% bupivacaine was injected. Successful block defined clinically by less than 15% increase in heart rate or blood pressure in response to skin incision at ICBG site. Fentanyl 1µg/kg was administered as required. Tramadol 1mg/kg IV as rescue analgesic for 48 hrs. ICBG site pain was assessed by VAS scores at admission, before discharge from PACU, and repeated in ward. Time to first request for rescue analgesic, total number of rescue analgesics required, time to first ambulation and patient/ parental satisfaction score (yes / no) were assessed.

RESULT
Demographic data was comparable in both groups. Statistical analysis was carried out using SPSS software (version 15). p value<0.05 was considered significant. Data is given as group A versus group B. Fascial planes were felt in 27(90%) versus 28(93.33%) patients. Total no of attempts to locate TAP plane was 2.66±1.33 in group A. Significant response to incision at ICBG site (HR/BP>15% of baseline) was seen in 4(13.33%) v/s 26(86.67%) patients (p<0.05). Intraoperative fentanyl top up requirements and total fentanyl consumed were significantly more in group B. 4(13.33%) v/s 26(86.67%) patients reported pain on palpation of the iliac crest in PACU. Time to first ambulation was 4.03±2.1 v/s 5.11±1.26 hours. BP and HR were significantly greater at ICBG incision time in group B. Time for first rescue analgesic was 3.22±1.02 v/s 2.11±1.45 hours (p<0.05). Total number of rescues required were more in group B (p>0.05). VAS (rest and mobilization) at PACU admission, discharge and thereafter till 30 hours post surgery was significantly more in group B.

CONCLUSION
TAP block for ICBG pain improves postoperative mobility, decreases opioid requirement, facilitates rehabilitation. It may help to decrease incidence of neuropathic pain.

REFERENCES: