- Pain management and use of regional techniques for these patients
- Offered PCA within first 24 hours
- Early physiotherapy – as soon as pain is controlled
- Early regional analgesia
- CCOT referral if mortality risk is high or NEWS >7

Methods

- Retrospective audit over the year 2019 at the QEHKL
- 80 patients coded as having a primary diagnosis of rib fractures – given Pressley Risk & Easter severity score.
- 29 patients scored moderate/moderate and above, 25 patients' paper notes were available – first 72 hours of admission was audited

Results

- Not achieving standard of care at 3 days
- Specialty input:
- Within 72 hours 80% had anaesthetics + physio reviews
- 5 patients weren't reviewed by any external teams
- All high risk of mortality patients are not getting a CCOT referral
- Pain management:
- 40% received PCA within 24 hours
- At 72 hours 64% of patients had a regional technique/PCA
- Regional techniques used were serratus anterior/erector spinae or thoracic epidural catheters. They were left in for an average of 4.4 days.

Conclusions

- Presented audit at information governance and teaching sessions for medical/surgical and A+E juniors
- Guideline revised with focus on regional anaesthesia
- TIPTOP Implementation:
- 1) Refer high risk thoracic injury patients to anaesthetic/acute pain team.
- 2) Book patient onto emergency theatre booking system
- 3) TIPTOP proforma to be completed by acute pain team/ anaesthetist to ensure follow up & standardised care
- Re–audit in 6 months time

85 HOW SHOULD WE ORGANISE *OUR* BLOCK ROOM? USE OF SIMULATION MODELLING TO ASSESS THE EFFECTS OF IMPLEMENTING A BLOCK ROOM

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10.1136/rapm-2021-ESRA.85

Background and Aims Two models (example in figure 1) were created in AnyLogic 7 (The AnyLogic Company, 2015). One model simulates a standard operating room complex with three operating theatres, whilst the other model simulates a block room configuration with one block room supplying three operating theatres. The block room model was then used to assess changes in staffing. Each model was run 1000 times, to simulate 1000 work days.

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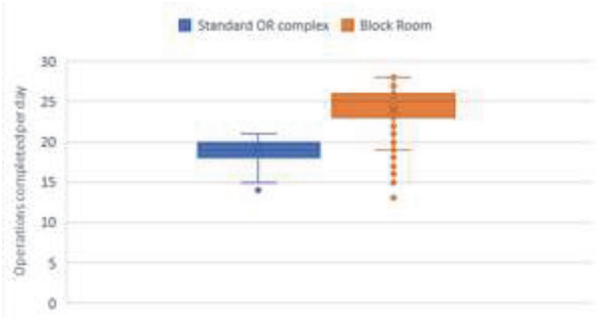
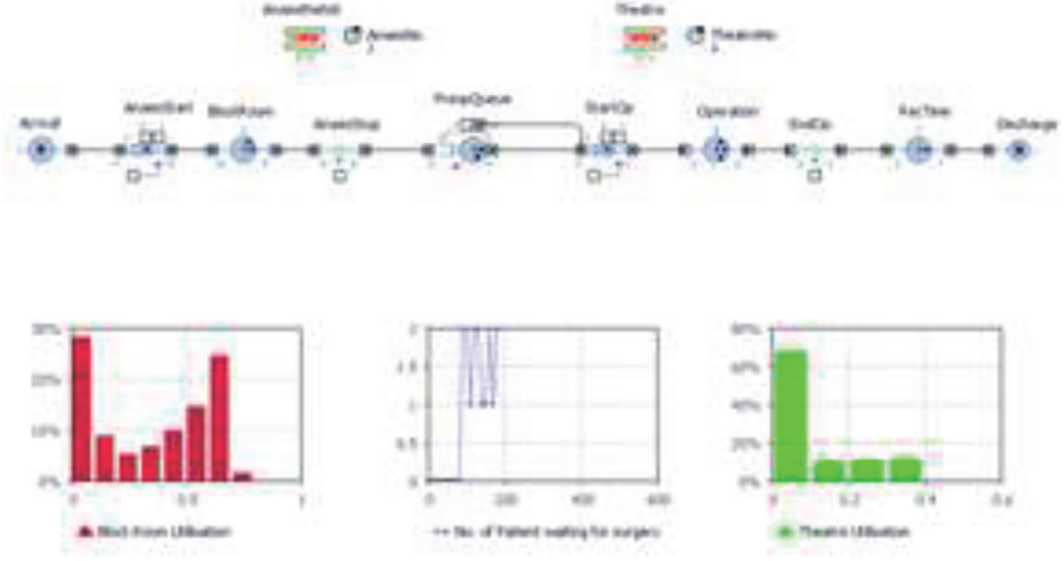
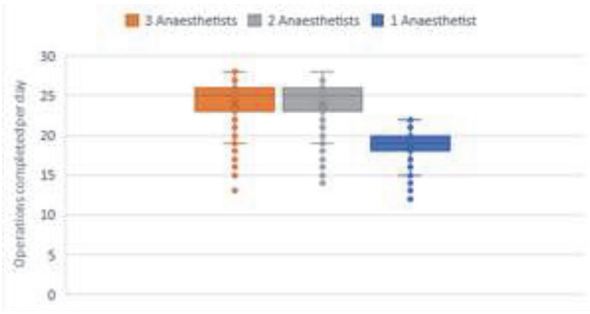


Abstract 85 Figure 2 Standard vs block room



Abstract 85 Figure 1 Example of block room model



Abstract 85 Figure 3 Block room staffing effects

Results The number of completed operations were compared (figure 2) The standard configuration completed 19 operations over three operating theatres (SD 0.99), in comparison the addition of a block room increased this to 23.8 (SD 2.66). The modelling of staffing effects (figure 3) showed that throughput could be sustained despite a reduction in anaesthetic staff.

Conclusions We used simulation modelling to test the possible benefits of implementing a block room, as well as the likely impact of changes to staffing on its patient throughput. This offers useful insights into the planning and organisation of a new pathway before committing to the cost and disruption associated with service reconfiguration.

86 SERRATUS ANTERIOR PLANE BLOCK (SAPB) IN SEVERE CHEST TRAUMA WITH MULTIPLE RIB FRACTURES (MRF): OPTIMAL COMBINATION BETWEEN ANALGESIA AND IMPROVED LUNG FUNCTION?

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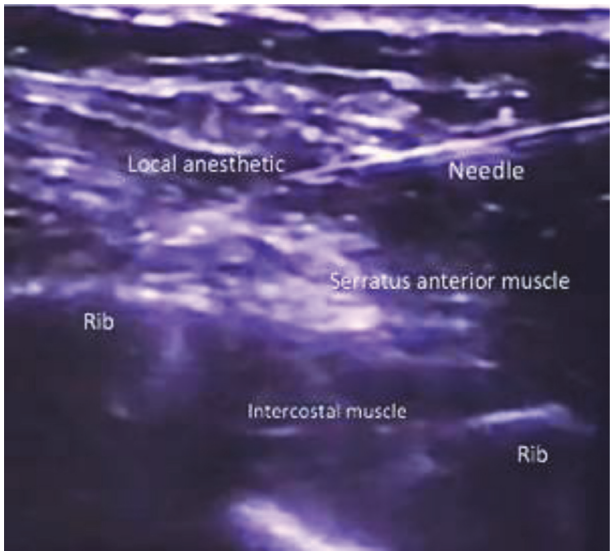
Background and Aims 10% of polytraumatized patients have multiple rib fractures. Associated severe pain can lead to hypoventilation and respiratory complications in 31% of cases[1]. 'Opioid-sparing analgesia' as epidural and multimodal analgesia are recommended[2]. We hypotize that SAPB[3,4] can provide effective, safe and long-lasting analgesia (thanks to dexamethasone added to local anaesthetic) and reduce respiratory complications, enhancing recovery of a better mechanical lung function.

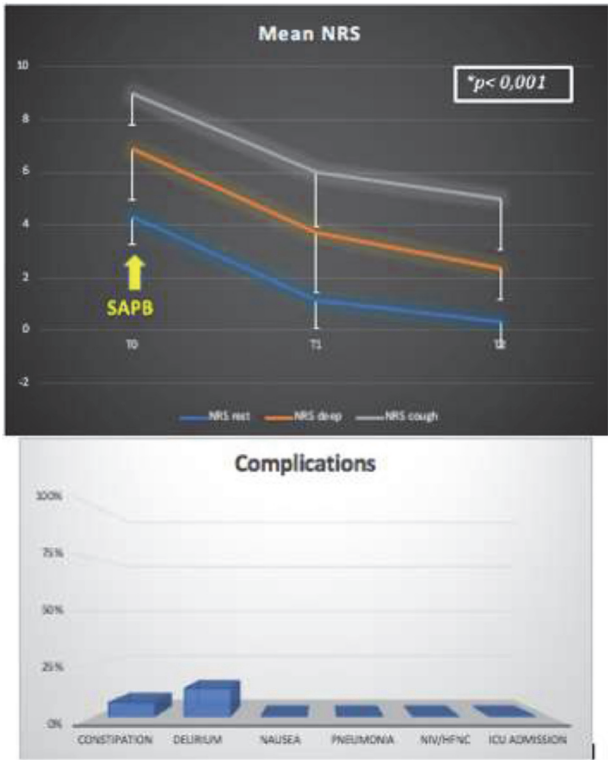
Methods 15 patients(age 64±15) hospitalized for polytrauma with MRF(8±4) and severe pain(NRS> 4), impairing maximal inspiration and coughing, were treated with multimodal analgesia + SAPB(ethical committee approval obtained). We injected levobupivacaine 0.25% 30 ml and dexamethasone (8 mg) within the myofascial plane of serratus anterior. We registered respiratory rate(RR), heart rate(HR) and NRS at rest (NRSrest), during maximal inspiration(NRSdeep) and coughing (NRScough) before SAPB(T0), after 15 minutes(T1) and after 4 hours(T2). At T0 and T2, lung ultrasound(LUS) and diaphragmatic ultrasound(DUS) were performed. Incidence of opioid-related side effects and respiratory complications were recorded.

Results We observed a significant reduction in NRSrest, NRSdeep, NRScough, HR and RR at both T1 and T2 in all patients. LUS revealed a significant improvement in lung aeration, DUS showed a significant increase in diaphragm excursion. Duration of analgesia was greater than 30 hours in most patients, greater than 48 hours in almost 50%. No patient asked for rescue-analgesia. No patient had respiratory complications.

Conclusions Both clinical and instrumental data suggest that SAPB is safe and provides effective opioid-sparing analgesia. Pain reduction allows improvement in pulmonary aeration and diaphragmatic function, suggesting a possible role in prevention of pulmonary complications.



Abstract 86 Figure 1



Abstract 86 Figure 2