INTRODUCTION OF ABDOMINAL WALL BLOCKS AT A TERTIARY CENTRE OF PAEDIATRIC SURGERY: A QUALITY IMPROVEMENT INITIATIVE

R Howle[1], Y Haroon-Mowahed[1], N Odeleye[1], S Bali[1], H Lewis[1], A Ali[2], U Sigg[2], M Naik[3]
1. Anaesthetic Specialist Registrar Royal London Hospital, 2. Clinical Nurse Specialists in Paediatric Pain,
3. Consultant Anaesthetist Royal London Hospital

Background

Abdominal wall blocks are an established analgesic technique for children undergoing abdominal surgery. Transversus Abdominis Plane (TAP) blocks and Quadratus Lumborum (QL) blocks have shown demonstrable benefits after abdominal surgery.[1,2] QL blocks may provide better analgesia than TAP blocks,[3,4] however, they are more difficult to learn and perform.

Problem

Introduce ultrasound-guided abdominal wall blocks for paediatric abdominal surgery at a tertiary centre.

Strategy for Change

Appendicectomies were the chosen cohort to monitor introduction of abdominal wall blocks. Most are performed laparoscopically at our institution and all receive morphine patient or nurse controlled analgesia post-operatively. The month prior to commencement was used as baseline and ongoing data collected prospectively. Initial departmental engagement was achieved by announcement of audit intentions and informal mentorship when suitable patients arose. The project group was assembled, a selection of infographics produced (Figure 1) and a block-specific equipment trolley was consolidated. Three drop-in teaching sessions were organised and well attended by consultants and registrars. Ad hoc teaching occurred when blocks arose via departmental announcements and continuous audit encourages ongoing engagement.

Figure 1: Quick reference guide infographic for quadratus lumborum blocks

Measure of Improvement

From August 2019 to January 2020, there were 42 appendicectomies, inclusive of 5 interval procedures. Of these, 21 had blocks performed by anaesthetists (13 QL; 8 TAP), which represents a 42% increase in block performance from the month prior to commencement of the project. The run chart (Figure 2) shows a steady increase in blocks during the 3 months of introduction. There was a lag in December after the project driving registrars left and new doctors started. However, further teaching targeted at the permanent consultant body enabled an ongoing and sustained increase in block performance. Patient outcome data thus far has not shown a significant difference in the 24 hour morphine consumption (No Block (NB) 0.49mg/kg (0.07); Block (B) 0.51mg/kg (0.06); p=0.86), 48 hour morphine consumption (NB 0.56mg/kg (0.09); B 0.80mg/kg (0.12); p=0.47) or length of stay (NB 4.2 days (0.5); B 4.1 days (0.5); p=0.88).

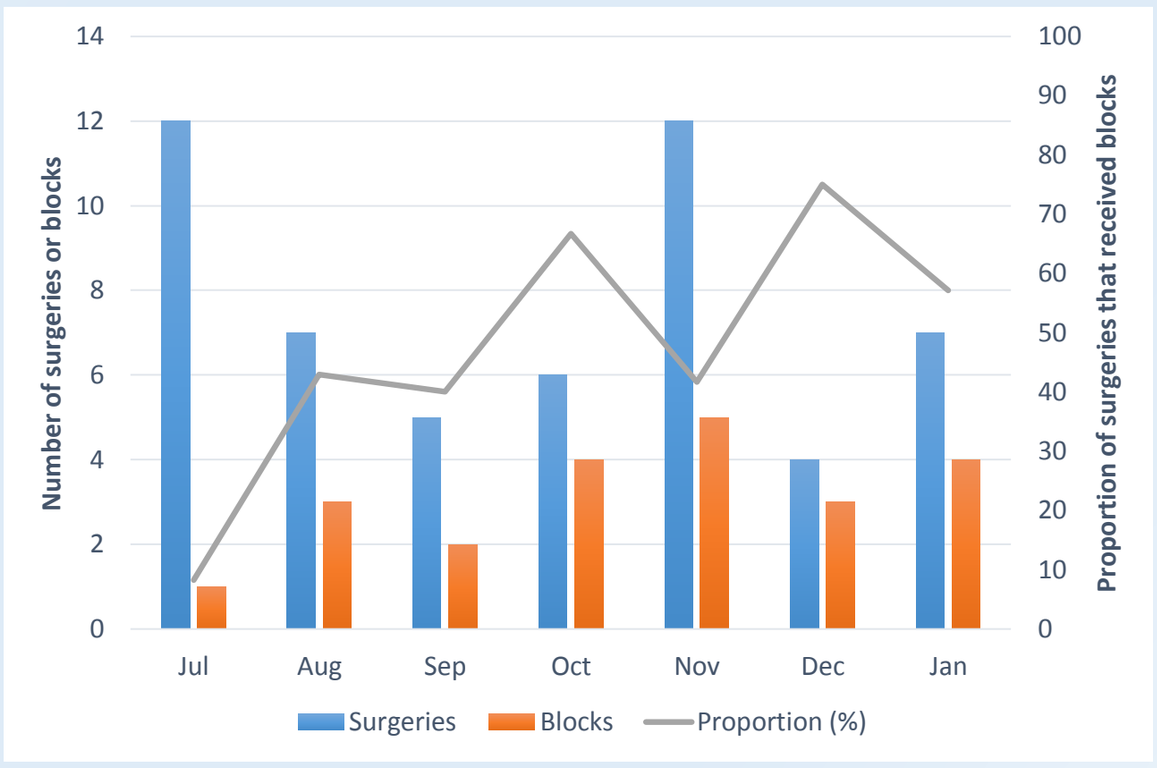

Figure 2: Run chart of number of blocks performed each month

Lessons Learnt

Instituting change within any department is challenging. However, some underlying factors contributed towards our success: The department is small (14 Consultants), has good interdisciplinary relations and a positive change culture is already instilled. Also, the idea of blocks was not novel, but consultant experience in ultrasound-guided techniques was limited. The main difficulty arose from the 3 monthly rotation of all registrars. We discovered that adequate skills teaching cannot be achieved in a single teaching session, so mentorship was offered where possible and ongoing project drivers identified in the consultant body so skills could develop over time.

Message for Others

Effective change is possible in as little as 3 months in the right circumstances. However, instilling change requires the investment of long-term drivers and a much slower shift in culture.

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