A Review of the Accuracy of Rectus Sheath Catheter Placement Following Laparotomy

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Aim: Rectus sheath catheters (RSC) deliver local anaesthetic to post-operative laparotomy wounds. Optimum positioning for RSC’s is in the retro-rectus space. They aim to reduce post-operative pain and have a lower side effect profile than epidural analgesia. This audit reviews positioning of RSC in post-operative laparotomy patients at Northumbria Healthcare Trust.

Method: NELA patients who had open laparotomy or laparoscopic converted to open procedures between 1st December 2021 to September 2022 were considered for inclusion. Patients who had RSC and had a post-operative CT scan within the first 3 post-operative days were identified.

Results: 105 patients (68%) had RSC inserted. 11 (10.5%) patients with RSC placed had post-operative imaging within 3 days. CT images were reviewed assessing the position of RSCs. One patient had bilateral RSC correctly placed. Of the total individual RSC’s (22) on imaging, 9 were correctly positioned, 9 incorrectly positioned, and 4 not identified when reviewing CT images. All of those incorrectly positioned were identified in the subcutaneous fat.

Conclusions: At Northumbria Healthcare Trust, RSC are inserted by surgeons and not ultrasound guided. This audit highlighted that they are mostly placed in the incorrect position. A method of inserting RSC more accurately, such as use of ultrasound under direct vision, may help to improve overall positioning of RSC. Further research is needed to assess if correctly placed RSC would result in lower analgesic requirements and improved post-operative recovery.