57. FLUOROSCOPIC GUIDED PLACEMENT OF THORACIC EPIDURAL CATHETERS FOR BARIATRIC SURGERY

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Objective: Describe and assess the use of fluoroscopy for thoracic epidural catheter placement in morbidly obese patients undergoing bariatric surgery.

Introduction: Gastric bypass surgery for refractory morbid obesity is becoming more common. Thoracic epidural analgesia has been shown to decrease oxygen requirements and benefit cardiovascular function after bariatric surgery (1). Epidural catheter placement in morbidly obese patients is challenging and time consuming even for the most experienced regional anesthesiology specialists. Failure to provide adequate analgesia is usually related to failure to access the epidural space or placement of the epidural catheter too low to cover incision pain from upper abdominal surgery. In response to these challenges, our Acute Pain Management Service has instituted a protocol designed to improve the effectiveness of thoracic epidural catheter placement for technically difficult patients. Fluoroscopy has become an essential tool for accurate and effective interventional pain management techniques (2). Very little literature describes the use of fluoroscopy to assist in thoracic epidural catheter placement or postoperative pain management for bariatric surgery.

Methods: Thirty-seven consecutive morbidly obese patients (average weight = 161 Kg, average Body Mass Index = 55 Kg/m2) scheduled for open bariatric surgery, were brought to our pain management center for placement of thoracic epidural catheters utilizing fluoroscopic guidance. Epidurogram was performed to further demonstrate catheter location and epidural distribution of our infusion. A combination of epidural and general anesthesia was utilized for surgery. A standard continuous infusion of bupivacaine 0.1% and hydromorphone 15mcg/ml was titrated for postoperative pain control (goal of 3/10 on the visual analog pain scale).

Results: All 37 (100%) catheters were successfully placed within the thoracic epidural space. One (3%) catheter failed secondary to occlusion. Thirty-six (97%) provided excellent postoperative pain control. Twenty-eight (76%) catheters were successfully placed within the target T5-T7 level. Ten (27%) catheters were technically challenging and required more than two needle repositions before the epidural space could be accessed. Nine (24%) catheters could not be threaded up to the target level, however epidural placement was confirmed with fluoroscopy. One (3%) patient demonstrated intravascular placement upon initial epidurogram at the T6 level. After pulling the catheter back to the T8 level an appropriate epidurogram was demonstrated and the patient recieved excellent postoperative analgesia. One (3%) patient experienced a dural puncture without sequelae. There were no adverse side effects related to placement of the epidural catheters using this technique.

Discussion: A detailed description and discussion of techniques and retrospective review will be provided in the poster presentation.

Conclusion: Use of fluoroscopy improved the effectiveness and efficiency of thoracic epidural catheter placement for morbidly obese patients in our teaching institution. A significant number of thoracic epidural catheters were challenging, even with fluoroscopic guidance. This approach has also been extended to other technically difficult and medically complex surgical patients who would benefit from thoracic epidural analgesia.

1. Gelman S, Laws HL, Potzick J, Strong S, Smith L, Erdemir H. Thoracic epidural versus balanced anesthesia in morbid obesity: an intraoperative and postoperative hemodynamic study. Anesth Analg 1980 Dec; 59(12):902-8.

2. Waldman SD, Winnie AP. Interventional Pain Management. W. B. Sanders 1996.