Ultrasound Guided Placement of Epidural Analgesia in a 624 Pound Super Morbidly Obese Parturient with Unpalpable Landmarks

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Introduction: A 624 pound parturient requesting neuraxial analgesia can be a daunting task. Ultrasound guided technique for placement of the epidural needle has been promoted in the literature to be advantageous. We present a case which contradicts these findings.

Case: A 35-year-old primigravida was transferred to our hospital with severe preclampsia at 33 weeks gestation. Her medical history was complicated by asthma, diet controlled diabetes, Body Mass Index 103. Obstetricians requested epidural analgesia to assist with rupture of membranes, fetal scalp electrode, and intrauterine pressure catheter placement. Lumbar epidural analgesia was attempted unsuccessfully using ultrasound guidance (USG). A 15 cm, 17 gauge Touhy needle was then blindly inserted into the L3-4 interspace with loss of resistance at 10 cm. Successful analgesia was achieved using 8ml of 0.125% bupivicaine + 100mcg fentanyl. The procedure was carried out uneventfully and painlessly.

Discussion: Placement of neuraxial analgesia in parturients with super morbid obesity is an extremely challenging, near impossible task. Common landmarks such as the posterior superior iliac spine and the lumbar spinous processes are frequently not palpable. Our patient had no discernible landmarks. Familiarization of the both the longitudinal and transverse axes of the lumbar spine using US was performed in an obese volunteer prior to attempting utilization of this technique on our patient. We were unable to identify any bony landmarks even though our penetration depth was set to 8 cm. Neither the epidural space nor the ligamentum flavum were able to be visualized likely due to their respective depth being deeper than our ultrasound penetration. Several research studies have shown USG to be superior to the traditional "feel as you go" approach in placement of neuraxial analgesia. One study found that in 18 of 19 patients the epidural space was entered successfully via USG. Other studies have clearly identified the spinous processes, the ligamentum flavum, and the epidural space in neonates and patients with normal to obese body habitus. There has not been specific research defining this technique in the super morbidly obese patient. We found the USG to be of no value in locating the intervertebral space or locating midline. Based on our experience we feel there is little if any use of USG to identify landmarks in the super morbidly obese patient requesting lumbar epidural analgesia.

Additional File: