ULTRASOUND GUIDED ERECTOR SPINAE PLANE BLOCK AS REGIONAL ANESTHESIA TECHNIQUES FOR BREAST CANCER BIOPSY, A CASE SERIES

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BACKGROUND AND AIMS

The Erector spinae plane (ESP) is an interfascial plane block where a local anaesthetic is injected in a plane preferably below the erector spinae muscle. It is supposed to work at the origin of spinal nerves. In this case series, we attempted to examine the effectiveness of ESP blocks as regional anesthesia for breast cancer incisional biopsy.

METHODS

Ten patients, aged 55 to 66 years old, diagnosed with suspected malignant breast cancer, were underwent open biopsy for diagnostic purposes. We attempted to use ultrasound guided ESP block as regional anesthesia. Firstly, we identified musculus erector spinae at 3cm lateral of vertebrae T5 level at seated position. Then, local anesthetic 20cc of ropivacaine 0.375% were injected through needle at the plane below the musculus erector spinae. The local anesthetic spreading below the musculus erector spinae could be visualized by ultrasound. We achieved complete block over T3 to T7 hemi thorax within 30 minutes.

RESULTS

We were successfully administered the regional anesthesia ESP block to nine from ten patients. They also had pain numerical rating scale of 0–2/10 for 48 hours post operative. But, one patient didn't get adequate block result and we had to use general anesthesia instead.

CONCLUSIONS

ESP block may be used as an alternative regional anesthesia technique for breast cancer open biopsy procedure, but further research needs to be done to proof its effectiveness and reliability.

KEYWORDS

Erector spine plane, Nerve block, Regional anesthesia, Breast cancer.

Figure 1. Patient clinical condition.

Figure 2. USG approach

Figure 3. (A and B) Sonographic anatomy for Erector Spinae Plane (ESP) Block: Trapezius muscle (Tm), Rhomboid Major muscle (Rm), Erector Spinae muscle (Es), TV4 & TV5: Transfer process of the fourth & fifth thoracic vertebrae respectively. (C and D) Ultrasound guided ESP block showing location of needle (arrows) and Local Anaesthetic (LA) deposited deep to the Erector Spinae muscle.

Figure 4. Chest X-Ray