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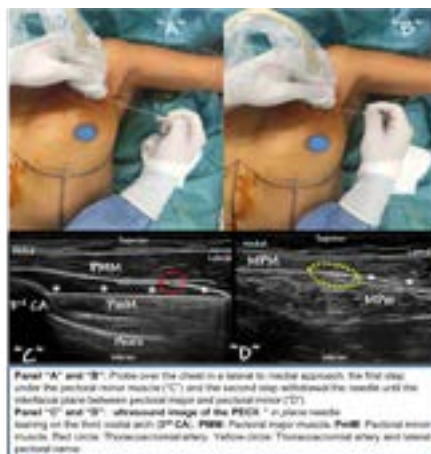
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In plane! Lateral approach of the pectoral nerves: A PEC II modification

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The pectoral nerves (PN) block was described by Blanco. This author describes an in-plane approach from medial to lateral. However, the 45° angle of the needle presents an issue, making it difficult to see, especially in obese patients and in those with big breast, having little flexibility with this technique. We propose another in plane approach. We have done this modification to perform mostly breast cosmetic surgeries in the past 6 years, with more than 500 blocks performed, achieving a good level of anesthesia and postoperative analgesia. We aboard the PN in plane approach, from lateral to medial, with the arm open at 90°; we put our linear probe on the patient's chest wall over the pectoral area, count the costal arch until the 3rd or 4th costal arch, and insert the needle from the armpit, under the pectoral major muscle. Looking for this costal arch to locate the medial pectoral nerve, that approaches the thoracic cage by the posterior aspect of the pectoralis minor muscle (Pmm), the needle approaches the plane until it contacts the bone and local anesthetic is injected at this site, the needle is then withdrawn to the interpectoral space, to the proximity of the thoracoacromial artery, where it is constantly accompanied by the lateral pectoral nerve, which in the caudal cephalic direction, from its entrance through the clavipectoral fascia, in the middle of the two pectoral muscles (interfascial space) in this anatomical site is inoculated local anesthetic seeing the separation of the pectoral muscles and the hydrodissection of the plane with isolation of the vasculonervioso package. It's always important to block both pectoral nerves due to the great variation in the emergence of the nerves, also for the unusual variant branches of brachial plexus, and by the shared innervation by the ansa pectoralis, observed in 100% of the patients. We have not had any complications such as hematoma due injury thoracoacromial vessels, as suspected in the lateral approach. In all surgeries the surgeons dissect the interpectoral space separating his side face without sectioning, with no evidence of hematoma in the area. We believe it's a safer way to perform the block in a patient who is awake in a pain clinic facility. This lateral approach PN block has proven to be an easy and safe technique, without any important complications derived from this modification.



Recent Publications:

1. Blanco R (2011) The 'peccs block': a novel technique for providing analgesia after breast surgery. *Anaesthesia* 66(9):847–8.
2. Blanco R, Fajardo M and Parras Maldonado T (2012) Ultrasound description of Pecs II (modified Pecs I): a novel approach to breast surgery. *Rev Esp Anesthesiol Reanim.* 59:470–5.
3. Macéa J R and Tavares Guerreiro Fregnani J H (2006) Anatomy of the thoracic wall, axilla and breast. *Int J Morphol.* 24:691-704.
4. Porzionato A, Macchi V, Stecco C, Loukas M, Tubbs R S and De Caro R. Surgical anatomy of the pectoral nerves and the pectoral musculature. *Clin Anat.* 25(5):559–75.

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5. Macchi V, Tiengo C, Porzionato A, Parenti A, Stecco C, Mazzoleni F and De Caro R (2007) Medial and lateral pectoral nerves: course and branches. *Clin Anat.* 20(2):157–62.

Biography

Juan Bernardo Schuitemaker R is a passionate Anesthesiologist with special interest in regional anesthesia. He has experience also in obstetric anesthesia. He mostly works with interfascial blocks, with special interest in chest blocks. Xavier Sala – Blanch is a worldwide known regional anesthesiologist, speaker in the most important conferences always in regional anesthesia, professor of anatomy in the medicine School in the Universitat de Barcelona. Arturo Sánchez – Cohen is a nurse specialist in interventional hemodynamics and pain medicine with great interest in clinical investigations. Ana Teresa Imbiscuso Esqueda, it's an Anesthesiologist pain medicine physician also Intensive care unit trainee.

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