




Advantages of ultrasonography-guided epidural block in obstetrical patients Ventajas del bloqueo epidural guiado por ultrasonografía en pacientes obstétricas

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Mr. Editor:


Epidural block consists of administering local anesthetics in the epidural space through a needle placed in the sacral hiatus. It is commonly used to produce anesthesia and/or analgesia in pediatric and obstetric patients, although its use is not relegated only to these groups and can be used in the whole population⁽¹⁾.



In Cuba, epidural block is performed in many health institutions by anatomical references, it is a procedure guided blindly and results in a high failure rate due to anatomical variations, since these can complicate the identification of the epidural space. In order to obtain positive results and reduce risks, it is essential to perform the adequate procedure, which makes the use of ultrasonographic techniques of vital importance, since it allows locating the epidural space, as well as reducing the incidence of complications related to this technique.

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Ultrasound is a safe and useful resource for anesthesiologists, since it allows performing invasive techniques, in which it has increased the success rate and decreased the rate of failures and complications. In the obstetric patient its benefit is greater because during gestation time, the interspinous ligament becomes softer and heterogeneous, this characteristic usually simulates the loss of resistance that occurs when the needle is in the epidural space. In the gravid patient this space becomes narrower and deeper, so the safe zone between the yellow ligament and the dura is reduced.

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It has been reported that the safe zone between the yellow ligament and the dura varies from one ethnic group to another. Likewise, the distance undergoes changes in the various spinal levels of the spine of the same person and when the distance from the skin to the epidural space is less than 4 cm, the risk of accidental dural puncture increases three times⁽²⁾.

There are several methods to identify the epidural space. These methods use negative pressure in the space or take advantage of the loss of resistance when the yellow ligament is penetrated; the latter technique has traditionally been the most widely used, however, it can be complex to find the epidural space when there is an inaccurate loss of resistance, especially in obstetric patients.

The obstetric patient is considered to have a greater difficulty not only because of the characteristics of the interspinous ligament and the epidural space, but also because of the increase of the epidural pressure during gestation due to the contraction of the abdominal and uterine muscles, and the decrease of the intervertebral space due to the increase of the lumbar lordosis and the rotation and enlargement of the pelvis, which leads to the underestimation by the anesthesiologist of the level of insertion of the needle⁽²⁾.

In pregnant patients, the use of ultrasonographic guidance for epidural block is increasing. Ultrasonography can increase the success rate of the technique and the block that occurs and decrease the incidence of complications. Ultrasonography is also useful for locating the midline, knowing the distance and depth of the epidural space and guiding the needle. This technique facilitates epidural puncture by evaluating the anatomy of the spine and providing accurate information about the location of the puncture site on the skin.

Anesthesiologists can benefit from the use of ultrasound to improve the placement of the needle in the epidural block when difficulty in performing the technique is foreseen, the use of ultrasound before the procedure is considered advantageous in patients with difficult anatomy and helps to determine the precise location of the anatomical details of the spine. For this reason, the use of imaging techniques should be protocolized in Cuba to facilitate the performance of epidural block and reduce the complications that accompany it.

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