

performance and create an unequal distribution of tasks and responsibilities.

Work-life Balance and Career Advancement Gender-related challenges, such as managing work-life balance, can impact team performance. Women in scientific societies and anaesthesia communities may face additional pressures related to family responsibilities and societal expectations, which can affect their availability, participation, and career advancement opportunities. These challenges can impact teamwork dynamics and overall performance.

Addressing gender influences on teamwork performance requires promoting gender equity, fostering inclusive team cultures, and challenging biases and stereotypes. Encouraging equal representation, providing leadership and mentorship opportunities, and promoting diversity and inclusivity initiatives can help mitigate these influences and create more effective and equitable teams. Additionally, awareness training and interventions aimed at reducing biases can support improved communication and collaboration among team members. In this context, a multi-faceted approach is required, with proposed strategies having the possibility to be implemented, as they are analyzed below.

Promoting Diversity and Inclusivity Actively work towards creating diverse and inclusive teams by promoting equal opportunities for individuals of all genders. This can be achieved through targeted recruitment and hiring practices, ensuring diverse representation in leadership positions, and creating a supportive and inclusive work environment.

Providing Training and Education Offer training programs and workshops that address unconscious biases, gender stereotypes, and communication styles. Provide education on the importance of inclusive teamwork and the value of diverse perspectives. This can help team members develop awareness and skills to mitigate biases and foster effective collaboration.

Encouraging Mentorship and Sponsorship Establish mentorship and sponsorship programs that specifically support women in anaesthesia and scientific societies. Mentors can provide guidance, support, and advocacy to help women navigate career challenges and advancement opportunities. Sponsors can actively promote the visibility and recognition of talented individuals, helping to minimize gender biases in decision-making processes.

Implementing Flexible Work Policies Support work-life balance by implementing flexible work policies that accommodate diverse needs. This includes providing options for parental leave, flexible working hours, and remote work arrangements. By reducing the impact of gender-related challenges on individuals' professional lives, team members can better contribute to and participate in teamwork.

Fostering Inclusive Communication Encourage open and inclusive communication within teams. Promote equal participation and active listening, ensuring that everyone's perspectives are valued and considered. Create a culture where individuals feel comfortable expressing their ideas, concerns, and feedback without fear of bias or judgment.

Establishing clear evaluation criteria Develop clear and objective performance evaluation criteria that focus on skills, achievements, and contributions rather than gender. Train evaluators to be aware of potential biases and provide them with tools to make fair and unbiased assessments.

Supporting Work-Life Integration Create a supportive environment that acknowledges and supports the integration of work and personal life responsibilities. Offer resources such as on-site childcare, family-friendly policies, and support networks to

help individuals manage their professional and personal commitments effectively.

Conducting Ongoing Research and Analysis Continuously monitor and analyze team performance, gender disparities, and barriers to inclusion. Collect data on team dynamics, leadership positions, and career advancement to identify areas for improvement and implement evidence-based strategies.

It is essential to approach these strategies holistically and continuously evaluate their effectiveness. Creating a gender-inclusive environment requires ongoing commitment, engagement, and a willingness to challenge and transform existing norms and biases.

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Panel discussion

#37203

PREVENTING ACUTE PAIN DURING CS UNDER REGIONAL ANAESTHESIA

Kassiani Theodoraki*. *Department of Anesthesiology, Aretaieion University Hospital, National and Kapodistrian University of Athens, Greece, Athens, Greece*

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Neuraxial techniques have long been established as the anesthetic techniques of choice for cesarean section because with their application, risks inherent in the use of general anesthesia, such as failed intubation, regurgitation, aspiration of gastric contents, and untoward awareness are avoided. However, on some occasions neuraxial techniques may fail, leading to maternal discomfort and pain. This could lead to the development of adverse psychological sequelae and even to medicolegal claims against obstetric anaesthetists.

Risk factors for failure of neuraxial anesthesia for cesarean section

There is no consensus as to what constitutes failure of neuraxial anesthesia. 'Failure' might either be complete (accompanied by total lack of sensorimotor block) or partial (manifested as unilateral block or inadequate block height). The need for intraoperative supplementation by additional analgesics or the need for conversion to general anesthesia is also a manifestation of failure of neuraxial anesthesia. Therefore, failure might be evident preoperatively (as inability to achieve a satisfactory block) or intraoperatively, as pain experienced intraoperatively by the parturient and as a request on her behalf for analgesic supplementation. Risk factors associated with preoperative failure include high BMI, operative urgency (associated with acute fetal distress or maternal medical condition) and being a primiparous parturient. Risk factors for intraoperative failure include allowing the cesarean section to start in spite of an inadequate block as well as increased

duration of surgery. Spinal anesthesia is thought to require lower intraoperative supplementation than epidural anesthesia and is associated with lower failure rates. Additionally, the use of spinal opioids in the context of spinal anesthesia is associated with less intraoperative failure. When labor epidural analgesia is converted to anesthesia for caesarean section, there are some well identified risk factors for failed conversion such as the urgency of caesarean section, the provision of anesthetic care by a non-obstetric anaesthetist and the need for an increased number of administered boluses for management of labor pain. In specific, obstetric anaesthetists in contrast to non-obstetric anaesthetists are more likely to manage labor epidurals more proactively, ensuring well-functioning catheters. This is because they are more likely to manipulate or replace suboptimal epidural catheters while non-obstetric anaesthetists are less likely to manipulate the epidural catheter or opt for alternative techniques if conversion fails. Also, frequent epidural boluses due to breakthrough pain throughout labor suggest a poorly functioning epidural catheter, which is more likely to fail if used for epidural conversion. Finally, the urgency of the caesarean section is a risk factor for epidural conversion failure, as there is not much time to wait for a satisfactory and well-established block. Conversely, the need for a lower epidural top up volume and the use of adrenaline in the local anesthetic mixture is associated with less intraoperative failure when a labor epidural is converted for caesarean section. Among the measures undertaken to prevent pain during caesarean section, the most important is to ensure the presence of an adequate block, of appropriate height and density.

Block assessment before caesarean section

Since the innervation of the uterus comes from sympathetic nerves originating from the inferior hypogastric plexus (T10-L1) and parasympathetic nerve fibers originate from pelvic splanchnic nerves (S2-S4), one would assume that the level required for the skin incision for the caesarean section is the one corresponding to the T10 dermatome. However, a block height to lower thoracic levels is not sufficient for caesarean section and this should reach much higher thoracic dermatomes, since several visceral organs send afferent impulses to higher levels of the thoracic spinal cord (up to T4). However, there is a lack of consensus as to how to perform an objective assessment of the neuraxial block before caesarean section and how this should be tested as various surveys have revealed inconsistency in practice and a lack of standardized approach as to methods of testing the neuraxial block. There is also considerable variation in the sensory block considered adequate among clinicians as well as whether the block should be tested from blocked to unblocked areas or the other way around. Additionally, there is a lack of consensus about the stimulus that should be used to test the height of the block with some using loss of cold sensation, some others using loss of sharp pin prick sensation and lastly some using loss to touch sensation. This is reflected in the various sensory modalities used to assess the block height such as ethyl chloride (cold), calibrated Neuropen (sharp), cotton wool (light touch) etc. There is also an inconsistent relation between cold, sharp pinprick and touch sensation, meaning that one cannot be safely predicted by assessing the other. To compound things more, anaesthetists are not always able to correlate anatomical landmarks with the correct dermatome. There is evidence however by surveys of anesthetic practice worldwide that loss of cold sensation to T4 (or alternatively to light touch) is the most common practice for testing the sensory

block and thus reaching this level is required to minimize the risk of pain during caesarean section. Additionally, the required height of the block is no different if a spinal or an epidural is used. When checking the sensory level of the block, additional recommendations are to test the also the lower level apart from the higher level and to allow sufficient time for the woman to respond when moving along dermatomes, especially when there are language barriers. Additionally, a dense bilateral motor block of the lower limbs is necessary to prevent pain during caesarean section and most textbooks suggest using the straight leg raise test since if the parturient can straight leg raise, the block will most likely not be adequate and pain can be experienced even if there is a high sensory block. On the other hand, the inability to lift the legs against gravity does not provide information about the density of the block in the mid to upper thoracic segments. Therefore, a combined approach of testing both sensory and motor components of the block is required. It has also been suggested to wait for some evidence of motor block before testing the sensory block for the first time and to start the sensory testing on the side where there is a denser block as evidenced by more motor block. This will help the parturient appreciate differences in a more accurate way as the block ascends. As to autonomic block assessment, most clinicians agree that it can be a useful adjunct to sensory and motor testing to confirm the quality of the block. It is evidenced by the presence of warm dry feet and can be confirmed by feeling the temperature of the underside of the toes. Since autonomic fibers are the most sensitive to the local anesthetic, the absence of autonomic block means that there is little chance of an adequate sensory block. Furthermore, differences in foot temperature suggest an asymmetrical or unilateral block, even if sensory testing does not show differences between the two sides. Importantly, a fall in blood pressure is not an index of sympathetic block since this can be masked by the use of vasopressor infusions. There is also lack of consensus on when and how often the block should be tested after the performance of neuraxial anesthesia. If there is evidence of a successful block at an early stage, this can encourage the parturient but on the other hand, if the block is tested too soon and there is a delay in manifesting its success, this might increase parturient anxiety. Anxiety can also be increased by testing the block multiple times as the parturient might feel that she is under pressure to confirm the adequacy of the block, even if this is not yet satisfactory. Although it is common practice to occasionally ask the surgeon the test the adequacy of the block before starting the operation, the responsibility for block assessment lies with the anaesthetist. The establishment of good communication between the parturient and the anaesthetist is also of paramount importance in ensuring the accuracy of the parturient's responses and thus of correct block assessment.

Additional considerations helping in preventing pain during caesarean section

In order to provide optimal neuraxial analgesia, it is necessary to administer the correct dose of local anesthetic for spinal anesthesia taking into consideration maternal body weight or height, aorticaval compression and gestational age. Also, consideration should be given to the supplementation of the local anesthetic by a lipid-soluble opioid, which augments the block and increases its duration. A combined spinal-epidural anesthetic offers the advantage of extending the duration of neuraxial anesthesia with supplementation via the epidural catheter in case this is required intraoperatively.

Preventing failed epidural conversion of labor analgesia

Pain during cesarean section can be prevented by preventing and avoiding failed epidural conversion of labor analgesia. The anaesthetist should continuously evaluate epidural block quality, the presence of breakthrough pain and the requirement for additional top ups so that he/she is aware of all the dynamic circumstances occurring during labor and he/she is actively involved in the process. This will provide the opportunity to optimize the epidural block quality, replace poorly functioning epidural catheters and prevent pain during cesarean section or the need to resort to general anesthesia. Continuous active communication with the obstetric team and knowledge of obstetric factors (such as progress of labor, fetal heart rate, maternal well-being, maternal risk factors) is mandatory. Confirmation of the catheter location by visual inspection or by administration of a test dose is highly recommended. In case of absence of progression of the block in the process of conversion, alternative techniques should be considered.

Managing failed epidural conversion of labor analgesia

Even after adequate assessment and active management of the epidural block, this still may fail to provide adequate anesthesia for the cesarean section. Therefore, it is essential to ensure adequate neuraxial blockade before surgical incision with some alternative technique because if inadequate anesthesia is recognized after the operation has been allowed to start, the only options left are intravenous supplementation or conversion to general anesthesia with its accompanying risks. In any case, the anaesthetist should always believe the patient if she complains of pain and accept failure. As mentioned before, the most common reason for anaesthetists to face litigation claims after caesarean deliveries is intraoperative pain resulting from failed neuraxial anesthesia. Finally, prompt follow up of the parturient after the operation is absolutely necessary to minimize the development of long-term psychological sequelae.

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#36949

OPTIMISING LABOR ANALGESIA: INITIATION TECHNIQUES – EPIDURAL, CSE OR DPE?

¹Emilia Guasch*, ²Nicolas Brogly, ³Fernando Gilsanz. ¹*Anestesia y Reanimación, Hospital Universitario La Paz. Madrid, Madrid, Spain;* ²*Anestesia y Reanimación, Hospital Universitario La Paz. Madrid, Madrid, Spain;* ³*Real Academia Nacional de Medicina de España, Universidad Autónoma de Madrid. España, Madrid, Spain*

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Among the characteristics of an ideal technique for labor analgesia, we should be able to offer the following: rapid onset, predictable and good quality of analgesia, and adjustable depth and duration of the block.

Additionally, it must be easy to perform and with minimal or absent maternal and fetal side effects.

Among available techniques, we have epidural, combined spinal epidural (CSE) and dural puncture epidural (DPE).

We also have to consider mother's expectations, clinical context and situation, cultural and social factors.

All these techniques are based on an epidural catheter. We'll try to find out which of them is better and under which circumstances with a better profile for mother and fetus.

Management of patients' expectations

The sources of information about labor analgesia, usually come from friends, internet, social media, and don't give accurate information. Sometimes, this kind of sources provoke more confusion than real information to parturients.

When we offer one technique to parturients, it is vital to know: timing, spread of analgesia, quality of motor and sensory block and concerns on maternal or fetal side effects.

One of the most asked questions is related to prolongation of labor or increase in cesarean delivery (CD) rates: Evidence says 'NO', if we compare diluted solutions combined with opioids and we compare neuraxial techniques to other analgesic methods (parenteral opioids).¹⁻³

Epidural technique

It is usually performed using a loss of resistance technique (with air or saline), and with a 17-19G needle passing through it a 19-20 G catheter into the epidural space (usually multiorificial). This catheter is recommended to be placed 4-5 cm inside of the epidural space (if less than 4 cm, the incidence of failure is higher, and if more than 6 cm, the incidence of unilateral block is higher).⁴⁻⁷

The incidence of failure of analgesia is variable, depending on the definitions and may be as high as 23%.⁸⁻⁹

Sacral block sparing may be difficult when epidural technique is used, as large diameter and thick myelinated sheaths of sacral fibers may be difficult to reach, knowing also that lumbar solutions tend to spread cephalad, instead of sacrally.¹⁰⁻¹² So, sacral spread is not optimal when epidural technique is used. This fact is not better when a lower lumbar interspace is selected.¹³

Combined spinal epidural technique

It is used an epidural needle to reach the epidural space, and once it is done, a long spinal needle (25-27G) is passed through the epidural needle to reach the subarachnoid space. The return of cerebrospinal fluid (CSF) is the objective proof of the correct spinal placement of the second needle. Once a small amount of medication (usually local anesthetics combined with opioids) is given via intrathecal, the spinal needle is removed, and an epidural catheter is inserted, to maintain analgesia epidurally as long as it is needed.

CSE technique provides a fast onset analgesia, faster than epidural,¹⁴⁻¹⁵ and with a more uniform spread of analgesia, what leads to a lower failure rate and higher maternal satisfaction.¹⁴⁻¹⁵

The concerns of CSE are:

The use of an untested catheter. It looks that the incidence of failure is lower when CSE has been used as an initial technique.¹⁶

Augmented uterine tone The uterine reactivity after initiation CSE technique can result in uterine hypertonus, needing sometimes the administration of a tocolytic (i.e., nitroglycerine, terbutaline). It occurs less commonly with the DPE and epidural.¹⁷

Fetal bradycardia CSE, compared to epidural is associated with a higher incidence.¹⁸⁻²⁰ The mechanism associated to this bradycardia is not 100% clear, but probably it is secondary to a sudden decrease in the plasmatic level of catecholamines,²¹⁻²²