

Selection Spinal Anesthesia Against an Unusual Finding: A Case Report Hairy Patch

Alireza Babajani¹, Tina Mohebi², Mahnoosh Ahmadi², Ahang Karimi^{3*}

¹Department of Anesthesiology, Allied Medical School, Iran University of Medical Sciences, Tehran, Iran.

²Nurse Anesthetist Izeh Hospital, Jundishapur University of Medical Sciences, Ahvaz, Iran.

³Department of Anesthesiology, Intensive Care and Pain, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran.

ARTICLE INFO

Article history:

Received 07 April 2024

Revised 01 May 2024

Accepted 14 May 2024

Keywords:

Spinal anaesthesia;

Spinal dysraphism;

Spina bifida;

Hairy patch

ABSTRACT

A 34-year-old woman was admitted for an emergency cesarean section at 38 weeks of pregnancy. She had no previous surgeries or illnesses. During the pre-operative evaluation, the anesthesia team noticed that the patient had not fasted. However, they decided to use spinal anesthesia for the emergency procedure. While preparing for the spinal examination, they discovered a large mass of hair covering the 3rd, 4th, and 5th lumbar vertebrae. Despite the emergency situation, the absence of fasting, and the risk of aspiration, the anesthesia team carefully considered all aspects of the patient's safety and decided to proceed with spinal anesthesia.

Introduction

Spinal anesthesia is a type of regional anesthesia that involves injecting an anesthetic drug into the subarachnoid space. Depending on the site of injection, the patient's position, and the type of drug used, it can effectively eliminate pain in specific areas of the body known as dermatomes. This technique is commonly used for procedures involving the lower abdomen and extremities [1].

The purpose of this article is to report a rare occurrence that we recently encountered while using spinal anesthesia. We hope to share our experience and insights about what happened.

Case Report

A 34-year-old woman at 39 weeks gestation was admitted to emergency cesarean on November 2, 2023, in the operating room of Izeh Hospital with vital signs PR=87/minute, T=37.1°C, RR=20/minute,

BP=110/75mmgh, SPO2 = 97% and laboratory data of Hgb= 11.1gr/dl, HCT= 37.1%, PLT= 348*103/ μ . The patient did not have any previous surgeries or illnesses. However, during the pre-operative evaluation, the anesthesia team discovered that the patient had not fasted. As a result, an emergency cesarean section was performed using spinal anesthesia. The procedure required the patient to be in a sitting position. During the exposure of the lumbar region, we discovered a large mass of hair that covered the 3rd, 4th, and 5th lumbar vertebra as shown in (Figure 1).

According to the patient's description, she did not have any neurological disorders in the lower limbs. She stated that this hair mass is hereditary and also exists in her mother. The patient did not have any radiographs or MRI of the back. In the examination of the spine, the spinous process of the lumbar vertebrae was palpated, and no defect was detected in the examination, considering the urgency of the surgery and the patient's condition, the chosen anesthesia method for the patient was spinal anesthesia. The spinal injection was performed by a median method, using Tuohy 27-gauge spinal needle and injection of 12.5 mg of 0.5% bupivacaine solution with the first attempt. After the emergency operation was

The authors declare no conflicts of interest.

*Corresponding author.

E-mail address: ahang.karimi@yahoo.com

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completed, the patient was advised to undergo an MRI of their spine, but she declined the suggestion. The patient was then neurologically examined in the lower limb after 6 to 12 hours, and it was found that the sensation,

movement, and reflexes were normal. There were no complications, and the patient was discharged 48 hours after the surgery.



Figure 1- A patch of hair on the patient's back

Discussion

Spinal anesthesia is usually used in surgeries involving the lower limbs or below the umbilicus and in gynecology and obstetrics. Absolute contraindications for spinal anesthesia are cases such as patient refusal, local infection at the needle insertion site, and increased intracranial pressure. However, in conditions such as neuropathy and myopathy, spinal canal stenosis, previous spine surgery, multiple sclerosis, spina bifida, aortic stenosis with fixed cardiac output, hypovolemia, and hereditary coagulation disorders, the use of this method is relatively contraindicated [1-2]. In cesarean surgery, spinal anesthesia is the usual method because it maintains the patient's ability to breathe spontaneously, prevents pulmonary aspiration, and exposes the baby to less anesthetic. However in emergencies and absolute contraindications, it is done using general anesthesia, but one of the advantages of general anesthesia is the speed of doing the work. One of the important disadvantages of this method is the failure of tracheal intubation and pulmonary aspiration; pregnant women who are not

fasting face a greater risk of aspiration during surgery compared to those who fast [3]. In emergency situations like the one we encountered, not being in a fasting state can increase the risk even further.

The spinal cord is a set of nerves and other tissues that connect the brain and body organs, located inside the spine and protected by several layers. The spinal cord is responsible for the transfer of information and movement. During the fetal time, the spinal cord may not be completely inside the spine, which is called Spinal Dysraphism. Among the types of Spinal Dysraphism, are myelomeningocele, spina bifida, and spinal cord splitting anomaly (diastematomyelia). Some types of dysraphism, such as myelomeningocele, are diagnosed at birth and require surgery, while others such as spina bifida or diastematomyelia may go undetected. An ultrasound or MRI can be used to diagnose this condition definitively [4]. According to research, spina bifida or diastematomyelia may not present specific neurological symptoms. However, clinical manifestations of these conditions include disharmony in the lower limbs, the presence of hairy masses, lipoma, or hemangioma [5]. In

2006, Kanbur et al. reported a presence of hair masses in a 16-year-old patient's lower back that was diagnosed with diastematomyelia after an MRI. Interestingly, this issue also existed within the patient's family [6]. The same thing probably applies to our case, because according to the patient's statement, her mother also had the same mass of hair in her back. According to a report by Lockman et al, a 26-year-old man had a mass of hair in his waist area as a clinical manifestation. After conducting necessary tests, they confirmed the presence of spina bifida [7].

Based on recent studies, the presence of hair masses on the back may indicate the presence of spina bifida or diastematomyelia in patients. Now we have some question, Can spinal anesthesia be safely used in these patients without causing special complications? According to Holste et al.'s research, performing spinal anesthesia during pregnancy in women with spina bifida can be challenging because it may cause anesthetic ineffectiveness and nerve damage [8]. Wood et al reported hematoma occurrence after spinal anesthesia in a 77-year-old patient with spina bifida. They noted that pre-anesthesia MRI is useful in these patients [9]. Doi et al. recently reported that ultrasonography can be as effective as MRI in detecting spinal cord Dysraphism [10]. Finally, it should be noted that complications after spinal anesthesia in patients with spina bifida or diastematomyelia are very rare, and accurate information regarding the incidence of complications is not available.

Conclusion

Taking into account the critical condition of the patient, the absence of fasting, the risk of aspiration, and the presence of a mass of hair in the back area, the anesthesia team carefully evaluated all aspects of the patient's safety and decided to use spinal anesthesia. It should be noted that if spinal anesthesia is adopted for patients suspected of having spina bifida or diastematomyelia, it is better to perform an accurate assessment of the patient's neurological condition first and pay special attention to

documenting and discuss the potential risks and benefits of this method. If possible and available, it is better to use ultrasonography.

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