ORIGINAL RESEARCH PAPER

Anaesthesiology

EXCISION BIOPSY OF A SUBMANDIBULAR LYMPH NODE IN SUPERFICIAL CERVICAL PLEXUS BLOCK: A CASE REPORT

KEY WORDS: cervical plexus block, submandibular lymph node, anesthesia, excision biopsy.

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ABSTRACT

SUMMARY: We describe a case of a 70-year-old hypertensive man who presented to hospital with swelling in the submandibular region. He successfully underwent an excisional biopsy of a lymph node in the neck region in superficial cervical plexus block. We review the literature for previous reports describing the use of regional anaesthesia during this type of procedure and discuss the advantages of regional over general anaesthesia.

INTRODUCTION:

Lymph nodes are a major part of the immune system that help our body to recognise and fight infections. As a result of infection, injury, or cancer, the area around lymph nodes may swell or enlarge, normally in form of lumps. Excisional biopsy, also called a wide local incision, involves surgical removal of swollen lymph nodes and allows to conduct a biopsy on the removed mass, which is needed to identify the cause of the disease. A major indication for excisional biopsy, performed under general anaesthesia, is the failure of fine-needle aspiration cytology (FNAC), which is the main diagnosis method of lymphadenopathy. Furthermore, anaesthesia is not compatible with FNAC as the additional needle stick for the anaesthetic also causes discomfort for the patients, and the anaesthetic solution may obscure a small mass [1]. The ideal anaesthetic method used for neck excisional biopsy is general anaesthesia because it provides confidence to the surgeon during the process. However, some patients may not be suitable for the general anaesthetic process, for instance hypertensive patients, and thus require a regional anaesthetic block approach [2]. Recently, there have been several cases of successful neck excisional biopsies done under regional anaesthesia [2], which appear to be comfortable to both patients and the operator.

CASE REPORT:

We describe the case of a 70-year-old male patient, ASA II, with a history of initial swelling in the submandibular region for five years, which started increasing in size in the previous three to four months upon admission to hospital. He presented hypertension for more than five years, but the condition was fairly controlled with oral antihypertensive medications. He was stable and had no other major systematic conditions.

There was no history of pain or fever associated with the swelling. The swelling area was approximately 4x4 cm, soft in consistency, and not adherent to underlying structures. The rest of physical examination was unremarkable. His vital signs were all within normal limits (pulse 56/min, B.P 130/80mmHg, SpO2 99%, respiratory rate 16/min). Initial investigations in CBC (Hb =14.5 g/dL, platelets=151k, TLC=7.0k, RFT; urea=36mg/dL, creatinine 1.1mg/dL). Due to his history of hypertension, the decision was to perform an excisional biopsy under bilateral superficial cervical plexus block.

The patient was shifted to the operating room (OR) and all standard monitors (NIBP, ECG, SpO2, Pulse) were applied. All resuscitation drugs were prepared. The anaesthesia machine and equipment were checked in case of the need of emergency general anaesthesia. The patient was in supine position with his face turned away from the site of the block, and the left side of his neck was prepared to take aseptic measures. The sternocleidomastoid muscle was identified. Ten millilitres of Bupivacaine 0.5% were injected subcutaneously at the junction of its upper and middle, third along, lateral border in a fan-shaped motion from cephalad to caudal direction. The same manoeuvre was repeated on the right side, and 10 mL of bupivacaine 0.5% were injected. Local infiltration of swelling was also done with the injection. Xylocaine plain 2% 4mL. The patient remained hemodynamically stable throughout the block procedure. The surgeon started surgery after 20 minutes of block application. Oxygen was provided to the patient via a nasal cannula at 3 L. After the start of the surgery, the patient became anxious due to the OR environment, drapes on the face, and the neck surgery. Consequently, a mild intravenous sedation was given. The surgery continued for 45 minutes due to the deeply seated location of the lymph node and went uneventfully, although sedation had to be repeated. After completion of surgery, the patient was shifted to the post-anaesthesia care unit (PACU) fully awake, conscious, and hemodynamically stable. He was asked about his experience, and he said he was highly satisfied and remained completely pain-free.

DISCUSSION:

Excisional biopsy in the neck or submandibular regions has been traditionally performed under general anaesthesia due to the complex anatomy of the nerves, arteries, and vascular structures located within the different regions or planes of the neck's muscle layers. General anaesthesia often gives more confidence in the exploration prior to the excision since it allows a perfect understanding of the anatomical variations that could be associated with the neck or the submandibular regions [1]. Recently, excisional biopsy of the lymph nodes in the submandibular or neck regions has been performed under regional anaesthesia. The case presented here is just an example of a successful procedure following the guidelines, but other groups have published similar cases [3]. However, there are limited studies focusing on the benefits of regional over general anaesthesia when performing excisional biopsy in the neck region, or on the complications of the procedure under regional anaesthesia. Nonetheless, the use of regional anaesthesia seems to be preferred by surgeons due to several reasons that favour both patients and operators, such as preventing pain, allowing the patient to be conscious during procedure, and allowing the integrity of the nerve supply (a region that can potentially be tested during the procedure) [4]. Furthermore, regional anaesthesia seems to be to be a better option when assessing overall outcomes, risks, and costs. For instance, regional anaesthesia is used in most cutaneous surgeries as it is considerably less expensive [5].

There are other case reports where excisional biopsy was used at the cervical region [3]. The ACTG (2000) laboratory resources offer a guideline to conduct excisional lymph nodes biopsy at the cervical region under regional anaesthesia [6]. Particularly, when the identified nodes to be excised are solitary, regional anaesthesia represents a comfortable option for both the patient and the surgeon in

terms of the time, complexity, and materials needed for the procedure. The use of regional anaesthesia represents several advantages as it avoids high blood pressure, as a result of intubation when general anaesthesia is used, and the post operatory recovery is smoother and faster due to less presence of narcotics and other drugs that are common with general anaesthesia. Additionally, as regional anaesthesia can me conducted during an outpatient visit, it reduces costs and complications that may arise with longer stay in the hospital [4].

CONCLUSION:

In conclusion, we present a case were excision biopsy of a submandibular lymph node was successfully conducted in a superficial cervical plexus block. We consider that is important for the patient to be integrated in the determination of the choice of the anaesthesia, since the patient's tolerability influences situations and procedure. Patients tolerate regional anaesthesia when done properly and makes the procedure faster and cost effective. However, more studies are needed to further determine the advantages and limitations of using regional anaesthesia when conducting excisional biopsies in the neck region.

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