

Perineal Nerve block for Anterio-posterior Repair of the vagina

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Abstract

Aim : Is to evaluate the effectiveness and practicability of Perineal Nerve Block (PNB) in Anterior-Posterior Repair (AP) repair of the vagina for post operative pain

This study was a comparative study included 200 patients , divided into two groups . One received perineal nerve block (PNB) , and the other group did not receive. Pain score was used in both groups. Pain was severe in the group that did not receive the nerve block , while the group received PNB did not show significant pain.

Methods

Efficacy of PNB was prospectively evaluated on 200 consecutive patients over 24 months. 100 patients received LA (Twenty ml of local anesthetic (10 ml 0.25% bupivacaine and 10 ml 1% lignocaine was infiltrated into both sides of the vaginal verge under General Anaesthesia (GA) to block the perineal nerve , and 100 patients did not receive PNB. Rescue analgesia in the form of tramadol and Intravenous (I V) paracetamol was available.

Duration of analgesia ; post operative pain based on (VAS 0-10); and complications were analyzed.

Results: 200 AP repair surgeries were performed. Injection was done just after commencing GA , and 5 minutes onset time allowed before surgery started.

Operative time ranged from 25-30 minutes, and tramadol and paracetamol were administered as rescue analgesia.

Post op pain based on VAS was assessed during the next 48 hours.

Injection site hematoma (3%) was the complications observed.

Conclusions:

PNB is effective , simple and reliable analgesia in AP repair of the vagina surgery

Introduction

Post op pain is common problem following AP repair of the vagina surgery.

GA , is associated with high pain score (VAS 7-8) post op in the first 24 hours following surgery. To treat post op pain , tramadol and diclofenac are used. PNB found to have much less pain post op (VAS 1-2) , and earlier mobilization and no side effects of nausea and vomiting .

Anatomy

The PNB is one of the three branches of the pudendal nerve (the terminal branches of the nerve being the perineal nerve and the dorsal nerve of the penis or clitoris and the inferior rectal nerve). The PN nerve branches from the pudendal nerve. The perineal nerve is the inferior and larger of the two terminal branches of the pudendal nerve, is situated below the internal pudendal artery.

It accompanies the perineal artery and divides into two branches:

Superficial perineal nerves, becoming posterior scrotal nerves in men and posterior labial nerves in women Deep branch of the perineal nerve (also known as "muscular")

Branches

As the perineal nerve travels anteriorly on the superficial surface of the urogenital diaphragm it branches in to superficial and deep branches.

The superficial branch of the perineal nerve pierces the fascia of the urogenital diaphragm and accompanies the posterior scrotal or posterior labial branches of the internal pudendal artery; this nerve runs forward and superficially to supply skin over the scrotum or labia majora.

the deep or muscular branches of the perineal nerve are distributed to the muscles of the perineum including the ischiocavernosus

, bulbospongiosus, deep transverse perinei, superficial transverse perinei, levator ani and sphincter urethrae;

The branch to bulbospongiosus also supplies sensory fibers to the mucous membrane of the urethra.

Block technique

EQUIPMENT

1. 20 ml plastic syringe.
2. 22 G (38mm) needle – sharp.
3. Gloves and antiseptic paint.

TECHNIQUE

1. General anaesthesia.
2. Lithotomy position.
3. Paint and drape patient.
4. Use approximately 20 ml of local anaesthetic.
5. Imagine you are looking at a clock face. Take the 22 G (38mm)

needle and insert it at the 3 o'clock position on a circle around the vagina (radius of 2.5 cm from the expected site of the incision).

6. Insert the needle to the hilt (angle it at 45° laterally) and inject 10 ml as the needle is withdrawn.
7. Reinsert at 9 o'clock (angled 45° north) and inject 10 ml on withdrawal (approximately 2.5 cm from midline).
8. The total amount of local anaesthetic used in this block is in the order of 20 ml.

DRUGS

1. 1% lidocaine
2. Bupivacaine 0.25% or ropivacaine 0.4%. It is reasonable to add epinephrine 1:200,000.
3. This block should give good, prolonged analgesia lasting 8-12 hours.

Patients and methods

This study was conducted in Al-Diwaniya Teaching Hospital, Iraq. 200 ASA physical status I and II female patients undergoing AP repair of the vagina surgery were included in this study. Exclusion criteria included, patient refusal, allergy to amide local anesthetic, and history of psychiatric disease

Patients are allocated randomly by a computer-generated list into two groups:

the PNB group (A), and the non PNB group (B). All patients received same general anesthetic technique. No premedication was used. General anesthesia was induced with intravenous ketamine (2 mg/kg) and propofol (2.0-2.5 mg/kg). Tracheal intubation was facilitated by cisatracurium (0.15 mg/kg). Anesthesia was maintained with oxygen and isoflurane. All

patients were mechanically ventilated with pressure-controlled mode with targeted EtCO₂ (30-35 mmHg). All patients received 4 mg dexamethasone I.V during surgery. Standard monitoring maintained throughout the procedure included ECG, noninvasive arterial pressure, arterial oxygen saturation, and capnometry. The severity of pain was measured by visual analogue score (VAS) in the recovery room and at 2-4, 6-8, 10-12, and 18-24 h after operation and was recorded

Postoperative nausea and vomiting together with the amount of antiemetic medications received during the first 24 h were recorded. Any adverse events including bleeding, swelling, or bruising related to the technique used were also recorded

Results

A total of 200 patients were included in this study.

There were no reported cases of, swelling, or bruising , but hematoma 3% at the injection site in th nerve block group. In addition, 50% of group B required antiemetics following tramadol administration.

All patients in group B had a high pain score (6-8-VAS) post op that they required rescue analgesia in the form of tramadol and dicloenac

Discussion

AP repair of the vagina is associated with high pain score post op . Pain management is a human right.

Emerging trend inclines towards ambulatory surgery for AP repair surgery owing to its advantages. Local anesthetic blocks, used to alleviate pain following conventionally

Performed PNB have immensely aided this trend.

The aim of PNB , , is to block the terminal nerve fibers to the vagina.

PNB is largely successful (100% in our series) owing to the ease of technique.

Compared to conventional analgesia, PNB proves effective by interfering minimally with the physiologic homeostasis. Injection site hematoma 3% , was a reported complication .

Safety; ease of technique; rapid recovery; minimal side effects; quick turn around time; minimal necessity of post operative monitoring; adequate post op analgesia and low cost are virtues that justify adoption of PNB as analgesia of choice for AP repair surgeries

Conclusion

PN block is a safe, , reliable, and effective and practicable mode of analgesia for AP repair surgery. Its evident efficacy justifies its adoption as analgesia of choice.

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