



NEWSLETTER

PAKISTAN SOCIETY OF ANAESTHESIOLOGISTS KARACHI - CHAPTER

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Pakistan Society of Anaesthesiologists Karachi - 2019-2020

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EDITOR'S NOTE

Dear Colleagues; January 2020 issue of Anesthesia newsletter is in your hands. This issue is also on regional anesthesia/analgesia as you know regional anesthesia is a vast topic and we received many articles which could not be accommodated in single issue due to our limited space available. Previous issue was mainly based on regional anesthesia/analgesia with the help of ultrasonography but as you all know that ultrasonography machines are assessable to anesthesiologist in very few hospitals so we have added another modality that is nerve stimulator. Hope everyone will be benefitted from this. Your valuable suggestions are always welcome.

Prof. Zahid Akhtar Rao
Editor, Newsletter PSA Karachi
newsletter@psacentre.org

PSA KARACHI NEWS

40th Annual Conference
Pakistan Society of Anaesthesiologists, Karachi
April 10-12, 2020 Hotel Marriott Karachi

PSA has been working since decades in providing knowledge, skills and ethical education to the generations of Anaesthesiologist in the country. The Society took it upon itself to raise the academic and technical standards of the profession by holding regular clinical meetings, CMEs, PG Courses and seminars apart from Annual Conferences which have been held regularly since the inception of the society.

This year Pakistan Society of Anaesthesiologists, Karachi chapter will be organizing its 40th Annual Conference which is indeed a great milestone that any medical society in Pakistan could have ever achieved. PSA Karachi is going to celebrate this auspicious occasion in a different way. Several committees have been formed and they are working on it. The theme of the conference will be "Journey towards Excellence - Vision 2025".

National and International speakers from around the globe will participate in the conference. There will be special sessions for Anaesthesiologists working in periphery with limited resources. Other key features include Plenary Talks, Debates, Opinion Forums, Setting Standards, Breakfast Session (meet the experts), Poster Presentations, Resident Free Paper Contest, Session for Paramedics, Scientific Exhibition, etc. Pre- Conference Workshops will be starting from 5th April, 2020. Social events like Inaugural Ceremony, Gala dinner, Geet Dhanak, etc are also planned.

All Anaesthesiologists are cordially invited to attend this conference and celebrate 40 years with us to generate good will amongst anaesthesiologists, seniors and juniors.

Dr. M. Kashif Iqbal
Gen. Secretary, PSA Karachi



UPCOMING CONFERENCES / MEETINGS / SYMPOSIA

40th Annual Conference PSA Karachi
April 10-12, 2020
Karachi, Pakistan

**7th SG-ANZICS Asia Pacific Intensive
Care Forum 2020**
April 2-6, 2020
Singapore

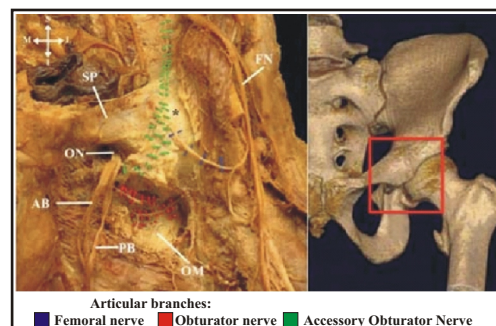
**11th Congress De la Societe
Camerounaise D'Anesthesie
Reanimation (SCAR)**
June 11-12, 2020
Douala, Cameroon

IASP World Congress on Pain
August 4-8, 2020
Amsterdam, Netherlands

17th WCA - Prague 2020
September 5-9, 2020
Prague, Czech Republic

UPDATE ON PERICAPSULAR NERVE GROUP (PENG) BLOCK

Pericapsular nerve group (PENG) block is a plane block, recently described by Giron-Arango et al. for postoperative analgesia in orthopedic surgery.¹ It is a new regional anesthesia technique which is based on blocking the femoral nerve (FN), obturator nerve (ON) & accessory obturator nerve (AON) with one injection & provides significant pain relief following fracture neck of femur (NoF)



Anatomy

The anterior hip capsule is innervated by FN, ON & AON. The high articular branches of FN and AON are consistently found between the anterior inferior iliac spine (AIIS) and iliopubiceminence (IPE) in the superior pubic ramus (PR)² which are not consistently blocked by fascia iliaca or 3 in 1 block.

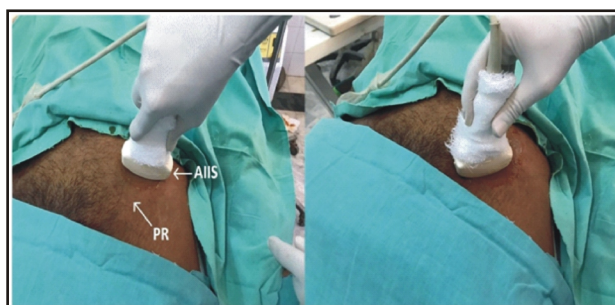
Indications

- Analgesia for fracture NoF.
- Postoperative analgesia following total hip arthroplasty.

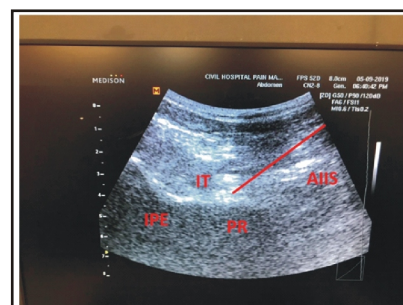
Technique

The PENG block is performed in the supine position. Acurvilinear low-frequency (2-5 MHz) ultrasound probe is first placed in a transverse plane over AIIS and then line up with the pubic ramus by rotating it counterclockwise approximately 45°. In this view, the IPE, the iliopsoas muscle and tendon (IT), & the femoral artery are observed. A 10 cm nerve block needle is inserted with an in-plane technique & advanced to the IPE on the pubic ramus³. The needle is placed in the fascial plane between psoas tendon and pubic ramus. A total of 30 mL of local anesthetic solution (15 mL 0.5% bupivacaine and 15 mL 2% lidocaine) is injected in the fascial plane after negative aspiration. To Test block success, pain scores at rest and on dynamic movement of hip (straight leg raise to 15°) can be done.

Probe Position



Radio Anatomy



Complications

- Vascular puncture
- FN damage
- Local anesthetic systemic toxicity

Contraindications:

- Patient refusal
- Allergy/Anaphylaxis to LA
- Coagulopathy

PSA Karachi (Head Office PSA Centre)

Address: Room 1, Annex Building II
PMA House, Agha Khan III Road
Karachi-74400, Pakistan
Tel : +92 21 3229 4795
Email: info@psacentre.org
psakarachi@psacentre.org



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1. Giron-Arango L, Peng PWH, Chin KJ, et al. Pericapsular nerve group (PENG) block for hip fracture. *Reg Anesth Pain Med* 2018;43:85963.
2. Short AJ, Barnett JJG, Gofeld M, Baig E, Lam K, et al. (2018) Anatomic study of innervation of the anterior hip capsule: Implication for imageguided intervention. *Reg Anesth Pain Med* 43: 186-192.
3. Santos O, Pereira R, Cabral T, Lages N, Machado H (2019) Is Continuous PENG Block the New 3-in-1? *J Anesth Clin Res* 10: 898.

Dr. Arun Kumar

Senior Registrar
Department of Anaesthesiology, Surgical ICU & Pain management
Dow University of Health Sciences
Dr. Ruth K.M. Pfau Civil Hospital Karachi

ULTRASOUND GUIDED TRUNCAL BLOCKS IN PEDIATRIC POPULATION

In the recent years, application of peripheral nerve blocks has gained popularity in both adults as well as children for almost every aspect of surgical and procedural pain relief. All kind of upper and lower extremity neural blocks can be safely performed in pediatric group which ranges from infants, children to adolescents. These blocks are not only restricted to caudal, epidural or subarachnoid block but include and ranges from head and neck to upper limb, trunk, abdomen, and lower limb.

Truncal blocks include transversus abdominis plane block (TAP), rectus sheath, ilioinguinal and iliohypogastric nerve blocks. Other than these femoral, fascia iliaca, lateral femoral cutaneous, popliteal, ankle, digital nerve blocks have also been quoted for US-guided techniques. For US-guided fascial plane block, the volume is the same as for the landmark-based techniques and the end point should be when the nerve is surrounded by local anesthetic solution.

Transversus Abdominis Plane (TAP) Block:

This is a compartment block that targets the abdominal wall. It provides analgesia to the parietal peritoneum as well as the skin and muscles of the anterior abdominal wall. In pediatric patients indications for TAP block are laparotomy, appendectomy, Nissen fundoplication, pyloromyotomy, major abdominal wall surgery, colostomy placement and closures. Rafi proposed the classic landmark description in adults in 2001 which has now been modified and mostly used with ultrasound. Local anesthetic dosing should be determined according to a child's age, physical status, the area to be anaesthetized, and the weight (based on lean body mass).

Ilio-inguinal and ilio-hypogastric Block:

Ilioinguinal and iliohypogastric blocks are commonly used for pediatric inguinal surgical procedures. Post herniorrhaphy pain is of moderate to severe intensity and often poorly controlled with the opioids, when they are used as a sole agent. These blocks have been shown to significantly reduce the pain associated with the mentioned procedures. The accurate block techniques must define the specific muscle layers of the abdominal wall. The only way to facilitate during landmark technique is to use the loss of resistance technique that defines facial layers. Ultrasound guidance has tremendously increases its accuracy and efficacy.

Rectus Sheath Block:

In umbilical hernia repair and other abdominal surgery, rectus sheath block is indicated for post-operative analgesia. Goal is to have local anesthetic spread between rectus muscle and posterior rectus sheath, where local anesthesia with volume 0.3 - 0.5 ml/kg per side can safely be administered. Usually in children, successful nerve blocks can be provided using a concentration 0.25% bupivacaine (0.25% levo-bupivacaine or 0.2 % ropivacaine). 0.125% bupivacaine is more appropriate for neonates or conditions when ambulation is important or when there is a risk of compartment syndrome.

Reference:

Foundations of regional anesthesia. Peripheral nerve blocks in children. <https://www.nysora.com>

Dr Asma Abdus Salam

Assistant Professor,
Department of Anesthesia, Dr. Ziauddin Hospital

AXILLARY BRACHIAL PLEXUS BLOCK

Axillary block is one of the most common approaches to brachial plexus blockade. Easy landmarks and simplicity make this block suitable for a wide range of surgical procedures.

Indications:

Surgery of the forearm, wrist, and hand

Contraindications:

Relative contraindications to its use are skin infection at the block site, axillary lymphadenopathy, severe coagulopathy and preexisting neurologic disease of the upper extremity because sensory assessments may be difficult.

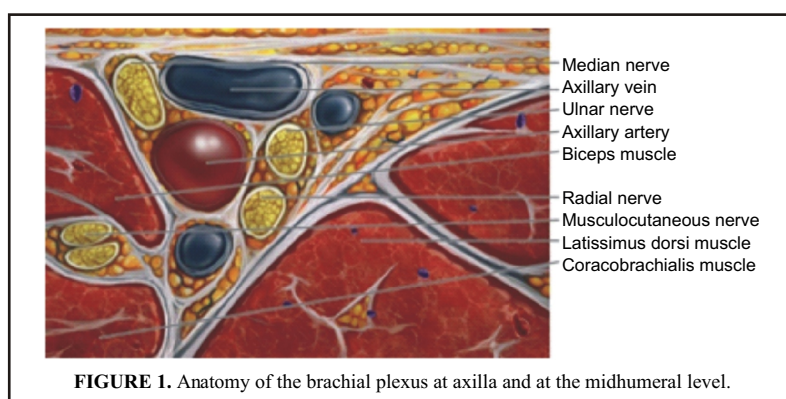


FIGURE 1. Anatomy of the brachial plexus at axilla and at the midhumeral level.

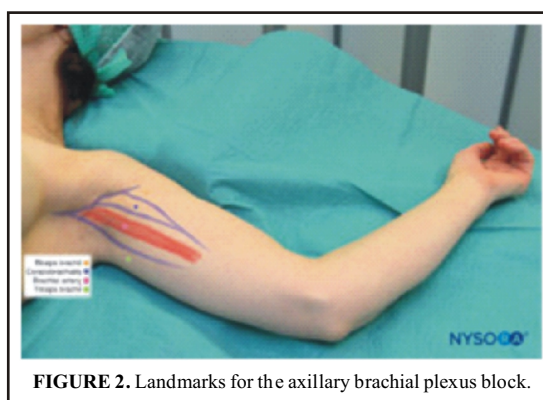


FIGURE 2. Landmarks for the axillary brachial plexus block.

Landmarks:

Surface landmarks for the axillary brachial plexus block include (Figure 2): Pulse of the axillary artery, Coracobrachialis muscle, Pectoralis major muscle, Biceps muscle, Triceps muscle

Equipment

Sterile towels, 4-in. × 4-in. gauze packs, Sterile gloves, marking pen, and a skin electrode, 1-in. 25-gauge needle for skin infiltration, 1- to 1.5-in. atraumatic, insulated stimulating needle, 20-mL syringes containing LA of choice, Peripheral nerve stimulator

Injection Technique:

Arm Position for the Block, the arm to be operated on is abducted approximately 90 degrees (Figure 2). The elbow is flexed and the forearm rests comfortably, supported by a pillow. The arterial pulse is palpated at the level of the major pectoral muscle, and the subcutaneous tissue overlying the artery is infiltrated with 4-5 mL of LA (to block the intercostobrachial and medial cutaneous nerves of the arm). Several techniques to the brachial plexus block at the level about the axilla have been described; we will describe only nerve stimulation technique.

Nerve Stimulation Technique:

The nerve stimulator is set to deliver 0.5-1.0 mA (2 Hz, 0.1 msec); electrical connections with the needle and the neutral electrode are checked. Depending on the surgical site (palmar and medial or dorsal and lateral aspects of the hand/forearm), the stimulating needle is inserted above the arterial pulse (toward the median nerve) or below the arterial pulse (toward the radial nerve), respectively (Figure 3). As the superficial fascia is penetrated, a characteristic “click” is often felt, and the current amplitude is slowly increased (e.g., at 1-mA increments) until the desired twitch (flexion or extension of the wrist and fingers) is obtained. This helps avoid painful electrical paresthesia when the elastic fascia suddenly “gives in” and the needle enters the neurovascular sheath. After the initial motor response is obtained, the needle is slowly advanced toward the stimulated nerve while reducing the amplitude. Once the stimulation is obtained using a current intensity of 0.3-0.5 mA, the entire volume of LA is injected slowly, while intermittently aspirating to reduce the risk of accidental intravascular injection. This results in substantial spread of the LA within the tissue layers encompassing the brachial plexus.

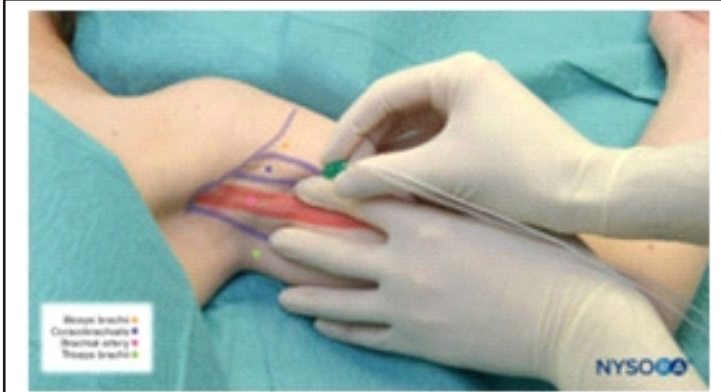


FIGURE 3. Radial nerve block: The needle is inserted above the pulse of the axillary (brachial)

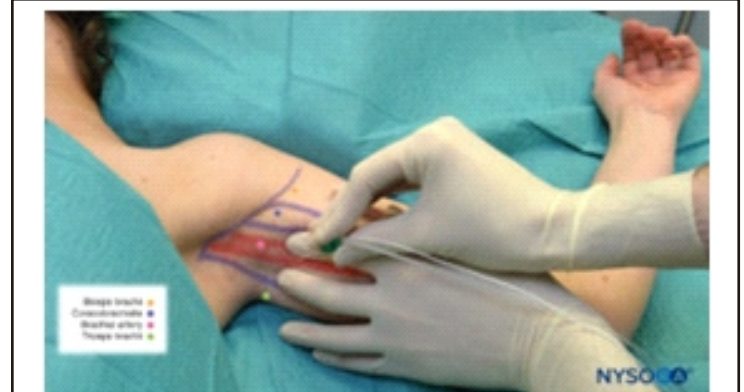


FIGURE 4. Median nerve block: The needle is inserted below the pulse of the axillary (brachial) artery

Choice of Local Anesthetic:

The choice of LA depends on the length of surgery and the desired density and duration of blockade. For elective procedures of longer duration ropivacaine 0.5% - 0.75% or bupivacaine 0.375% - 0.5%, with or without epinephrine, will provide analgesia of slightly slower onset (15-20 min) and longer duration (6-16 h). For specialized hand surgery that may last several hours for example, multiple joint replacements or reimplantations of severed extremities a continuous ropivacaine (0.2% - 0.375%) infusion via an axillary catheter is probably the best technique. Clonidine (0.5 mcg/kg) may be added to intermediate-acting LAs to prolong analgesia after single-shot blocks.

Complications:

Vascular Puncture, Intravascular LA Injection, Hematoma, Nerve Injury,

Toxicity Due to Absorption of LA:

Toxicity due to absorption of LA usually becomes symptomatic 5-20 minutes after injection. The symptoms include lightheadedness, dizziness, tunnel vision, circumoral paresthesia, bradycardia or tachycardia, anxiousness (eventually progressing to unconsciousness), and seizures. Oxygen, a sedative/hypnotic in titrated doses, and airway support if necessary should be immediately administered.

Acknowledgement:

Material taken from NYSORA web site.

Prof. Zahid Akhtar Rao

Fazaia Ruth Pfau Medical College, Karachi



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OBITUARY

Prof. Najma Amjad

27th August, 1955 - 9th October, 2019



It is with great sadness that we share with you the obituary of our dear colleague, Professor Najma Amjad. She passed away on Wednesday, October 9, 2019 at the age of 64 after a very courageous 4 years battle with breast cancer.

Dr. Najma was born in PNS Shifa hospital, Karachi & raised in various part of Pakistan due to the posting of her father who was an army officer and prisoner of war 1971. Her mother was an educated lady with very strong army background. Dr. Najma studied in various army public and presentation convent schools. She passed her intermediate Board of Intermediate education from St. Joseph convent school. Following her medical education & training at Sind Medical College and 1 year house job, Dr. Najma served as a RMO (resident medical officer) in NICVD and then JPMC. She did her post-graduate training in Anaesthesia at JPMC and was conferred MCPS in 1983 & FCPS in 1991 from College of Physician and Surgeons Pakistan (CPSP).

At JPMC, she served on several positions from registrar to Associate Professor. In 2001, Dr Najma moved to NICVD (National Institute of Cardiovascular Diseases) where she became the Head of the Department (HOD) of Anaesthesiology & Intensive care unit in 2007 and Professor in 2009. During her stay at NICVD, she became a nationally recognized faculty and excelled in the specialty of cardiac anaesthesia with particular expertise in paediatric cardiac surgery. She was instrumental in establishing pediatric cardiac surgery & anaesthesia and 12-bedded pediatric cardiac surgical ICU at NICVD. She was widely admired for her selfless untiring clinical and administrative abilities during her leadership role at NICVD from 2007 to 2015.

She was also an honorary faculty of department of Anaesthesiology at the Aga Khan University from 1993-2017. She led an extraordinary life of accomplishments & fulfillment. She was a highly respected individual, not only in anaesthesia community but also in various disciplines of surgery and obstetrics & gynecology. She was a strong advocate of "cost-effective health care for all" philosophy and academic progression in country like Pakistan. She made significant contributions in health care systems and post-graduate training & education during her tenure as head of the department at NICVD. She was also an Examiner for Anaesthesia fellowship examination at CPSP.

In recognition of her selfless contributions in the discipline of Anaesthesia, Dr Najma Amjad was conferred the lifetime achievement award by Society of Anaesthesiologists in 2017. She was well admired for her polite manner, honesty & truthfulness, organized work ethic and courteous demeanor. She truly exhibited high levels of professionalism and compassion to her patients. She continued to work until the end of her life and did the last Anesthesia case on 25th August 2019.

She was a caring and loving person and will be much missed by her family, colleagues, friends and her many beloved students and fellows who now hold senior positions in NICVD and other institutions in Pakistan.

Dr. Najma leaves behind two siblings, an older sister who is a practicing physician & a younger brother who is a chief Engineer in Merchant Navy.

On behalf of the anaesthesia community, we offer our heartfelt condolences to Dr Najma's family on this bereavement and pray for the eternal peace for the departed soul.

Contributors:

Prof. Fauzia A. Khan

Prof. Gauhar Afshan

Prof. Amin M. Khuwaja



Receiving PSA Karachi life time Achievement Award, 2017