A Survey on Knowledge and Attitude toward Chronic Pain among Interns in Yenepoya University, Mangalore, South India

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BACKGROUND AND AIMS

Interns, being budding doctors and future prospects, have a key role in effective pain management; therefore, interns’ knowledge is of critical importance in treating pain. The interns’ accurate assessment, prompt intervention, and adequate evaluation of pain relief measures are necessary for better clinical outcomes.

Hence, we take up this study to evaluate the knowledge and attitude with a questionnaire, regarding chronic pain management among interns in Yenepoya University, Mangalore city, South India.

METHODS

Interns from Yenepoya University, Mangalore, who volunteer to take part in the study, were given a set of questionnaire. Each set of questionnaire contained 15 multiple choice questions (5 questions to evaluate the attitude and 10 questions to evaluate the knowledge) having one correct answer. And, the volunteer were asked to mark the correct answer in person, later statistically analyzed.

RESULTS

Total of 76 Interns from Yenepoya University, Mangalore, were analyzed for attitude and knowledge for chronic pain management. Of the five questions designed to assess the attitude, 32.6% questions were correctly answered, with mean of 1.63 and SD of 1.094. Among 10 questions designed to assess the knowledge, 28.7% were correctly answered with mean of 2.87 and SD of 1.85.

CONCLUSION

The knowledge and attitudes toward chronic pain among Interns of Yenepoya University is not satisfactory, this indicates that there is a need for implementation of pain training programs in undergraduate curriculum.

Evidence-based Interventional Pain Procedures for Spine and Cancer Pain

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Evidence-based medicine (EBM) or evidence-based practice (EBP) aims to apply the best available evidence gained from scientific methods to clinical decision making. It seeks to assess the strength of evidence of the risks and benefits of treatments (including lack of treatment) and diagnostic tests. Evidence quality can range from meta-analyses and systematic reviews of double blind, placebo-controlled clinical trials at the top end, down to conventional wisdom at the bottom.

Traces of evidence-based medicine’s origin can be found in ancient Greece. Although testing medical interventions for efficacy has existed since the time of Avicenna’s the Canon of Medicine in the 11th century, it was only in the 20th century that this effort evolved to impact almost all fields of healthcare and policy. Professor Archie Cochrane, a Scottish Epidemiologist, through his book effectiveness and efficiency: Random reflections on health services (1972) and subsequent advocacy caused increasing acceptance of the concepts behind evidence-based practice.

Cochrane’s work was honoured through the naming of centers of evidence based medical research cochrane centers and an international organization, the cochrane collaboration. The explicit methodologies used to determine ‘best evidence’ was largely established by the McMaster University research group led by David Sackett and Gordon Guyatt. Guyatt later coined the term ‘evidence-based’ in 1990. The term ‘evidence-based medicine’ first appeared in the medical literature in 1992 in a paper by Guyatt et al. Relevant journals include the British Medical Journal’s Clinical Evidence, the Journal of Evidence-based Healthcare and Evidence-based Health Policy. All of these were co-founded by Anna Donald, an Australian pioneer in the discipline. There has been discussion of applying what has been learned from EBM to public policy. In his 1996 inaugural speech as President of the Royal Statistical Society, Adrian Smith held out evidence-based medicine as an exemplar for all public policy. He proposed that ‘evidence based policy’ should be established for education, prisons and policing policy, and all areas of government.

Interventional pain medicine, the use of minimally invasive techniques to relieve chronic pain, is the best approach when simpler measures such as physical therapy or medications fail. However, these procedures can be associated with significant risk and expense. Establishing uniformity in diagnostic criteria and procedural performance can reduce both morbidity and unnecessary procedures, and hence healthcare expenditures. Evidence-based interventional pain medicine focuses on a balance...
between effectiveness and safety of interventional management for specific diagnoses and treatment of spine and cancer pain across all areas body like head and neck, thorax, lumbosacral region, different joints, etc. Jan Van Zundert, Jaap Patijn, Craig Hartrick, Arno Lataster, Frank Huygen, Nagy Mekhail and Maarten van Kleef, all internationally renowned pain physicians, have devoted most of their lives to develop evidence-based interventional pain medicine.

Cancer Pain Management and Our Limitations as Oncologists

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BACKGROUND
Pain management is a branch of medicine focused on reducing pain and improving quality of life through an integrative approach to care. Pain management is particularly important for cancer patients, considering one in three patients continue to experience pain after treatment.

INTRODUCTION
Cancer pain is very treatable. According to the American National Cancer Institute, about 90% of cancer patients get relief from relatively simple pain management therapies. Most of the pain associated with cancer can be blamed on the tumor itself. Pain also can result from common cancer treatments: chemotherapy, radiation therapy and surgery. Pain management can improve quality of life at any stage of cancer, so managing one's pain is the priority. A variety of modalities to treat and control pain, including: Prescription medications, interventional procedures, nondrug pain treatments including radiation therapy, chiropractic treatment, acupuncture and auriculotherapy. Cancer pain is usually managed by oncologists, occasionally with input from specialists in hospice and palliative medicine or pain medicine.

DISCUSSION
About one-third of patients being treated for cancer experience pain, which can take many forms. It may be short-lived or long-lasting, mild or severe, or affect one or a few organs, bones or organ systems. Since each patient’s pain is unique, cancer pain management treatment plans must be tailored to address individual needs. The World Health Organization’s analgesic ladder for cancer pain relief provides a stepwise approach to managing pain in patients with cancer.

CONCLUSION
Most of the cancer pain patients are treated with conservative treatment, but, a significant number of patients are resistant to conservative treatment. This situation is the helpless situation for both patients and oncologists. In this limitation of oncologists, interventional pain procedure can rescue both patients and oncologists as well.

Transversus Abdominis Plane Block in Postoperative Analgesia: A First Time Clinical Trial in Bangladesh

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BACKGROUND
In perioperative care, a reliable pain management is a vital appeal. Over recent years, transversus abdominis plane (TAP) block is introduced as an important component of multimodal analgesia.

OBJECTIVE
To evaluate efficacy of TAP block in postoperative analgesia for total abdominal hysterectomy (TAH) with subarachnoid block (SAB) in comparison of morphine consumption and VAS score.

METHODS
Sixty patients were randomly allocated into two groups (TAP group A and control group B). Standard SAB was applied to all patients for elective TAH. Immediate after operation classical TAP block was performed through both lumber triangle of petit (LTOP) of group A patients. Both groups were placed in postanesthesia care unit (PACU), arranged a common standard postoperative analgesic regimen for all, observed periodically and documented it accordingly in predesigned data sheet.
RESULTS
Transversus abdominis plane block prolonged the mean time of 1st required I/V morphine (TAP vs control, mean ± SD 271.23 ± 40.34 vs 195.33 ± 22.16 minutes, p = 0.001 HS). Morphine requirement was also reduced (17.4 ± 5.4 vs 26.2 ± 4.4 mg, p = 0.001 HS). Pain VAS scores at rest and movement were also reduced at all time period (p ≤ 0.01–0.001). There was no complication attributed to the TAP block.

CONCLUSION
Transversus abdominis plane block provided considerably effective postoperative analgesia in first 24 hours after major abdominal surgery like TAH.

Physiatrists’ Management of Spinal Pain and Limitations
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Musculoskeletal disorders, especially spinal disabilities, are one of the major causes of morbidity. They have a substantial influence on the health and quality of life and imposes an enormous burden of cost on the healthcare system.

According to a WHO-APLAR COPCORD study, prevalence of musculoskeletal disorder 9.38% and prevalence of spinal disorder 5.38% in India and Bangladesh. Among the spinal disorder, heterogeneous range of specific diseases (15–20%) and non-specific disorder (80–85%). The incidence of spinal pain (neck and back pain) increases with age approximately 95% of the individuals by the age of 65. It has been reported that serious spinal pathology. However, accounts for only 1 to 2% of patients who present with symptoms of spinal pain.

Spinal disorders can have a very large impact on individuals and their families, communities, health systems and businesses. Successful rehabilitation of spinal disorder should include a functional approach designed to meet the specific individual needs of the patients and in turn, lead to a proactive rehabilitation program with the goal of preventing pain and disability. The potential impact on one’s quality of life and productivity during the different stages of spinal disorder deserves recognition and should warrant reactive treatment.

Physiatrist using quality of life in spinal pain patients for clinical decision-making: the assessment of the severity of the spinal disorder at baseline, the assessment of the individual response to specific treatment over time, exposing evaluation discrepancies between physicians and patients, evaluating the outcome of general treatments, guiding decision making about hospital care options, evaluating cost-effectiveness.

A wide variety of PRM interventions including patient education, behavioral therapies, exercise, a number of physical modalities, manual techniques, and multidisciplinary rehabilitation may help patients with low back pain and cervical pain in improving their functioning. Physiatry may also be used to optimize a patient’s condition pre or postsurgery.

However, physiatry has certain limitations. In many conditions, multidisciplinary approaches are needed, especially interventional physicians, pain specialists, neurosurgeons, orthopedic surgeons and psychiatrists may play an important role in managing the conditions to improve the quality of their lives.

Evaluation of Pudendal Nerve Block for Pain Relief after Episiotomy

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AIMS AND OBJECTIVES
To evaluate the efficacy of pudendal nerve block for pain relief after episiotomy.

INTRODUCTION
Following childbirth episiotomy causes significant pain. We performed this randomized controlled trial to evaluate the efficacy of nerve stimulator guided unilateral pudendal nerve block for pain relief after episiotomy.

MATERIALS AND METHODS
One hundred parturients who delivered vaginally with mediolateral episiotomy were randomized to receive pudendal nerve block with 15 ml of either ropivacaine 7.5 mg/ml or normal saline after repair of episiotomy wound. Pain due to episiotomy was assessed using visual analog scale at rest at 3, 6, 12, 24, 48 and 72 hours and during activities at 24, 48 and 72 hours post-episiotomy.
RESULT
This study demonstrates that nerve stimulator guided pudendal nerve block with ropivacaine 7.5 mg/ml is associated with decreased pain and need for additional analgesics during the first 72 hours post episiotomy.

Radiofrequency Thermocoagulation of Chronic Coccydynia: A Case Series

Amitesh Pathak

BACKGROUND
Coccydynia is commonly referred to as ‘tailbone’ pain. Ganglion impar (ganglion of walther) is an unpaired retroperitoneal structure which provides sympathetic innervation of the perineum. Ganglion block has been effective in treatment of coccydynia that could not be relieved by classic treatment protocols.

AIMS
This retrospective study aimed to evaluate the effectiveness of radiofrequency thermocoagulation in patients with chronic coccydynia who were not relieved with conservative treatment protocols.

METHODS
We retrospectively analyzed the collected data of 57 patients with chronic coccydynia (pain >6 months) of our pain clinic. All patients had been previously treated with conservative methods, but none had pain relief. A retrospective analysis was done on the basis of questionnaire administered to these patients. Pain level of the patients were assessed by pre and post-treatment visual analog scale (VAS) score and the modified Oswestry disability index (ODI).

RESULTS
The mean age of the patients was 39 ± 12 (20–65) with 20 females (67%) and 10 males (33%). The average follow-up duration was 22 ± 12 months. Statistical significance difference was noted between pre and post procedure VAS score (p < 0.01). Patients also had greater ODI score post-procedure but not significantly (p > 0.01). The clinical results among the 48 patients with follow-up were as follows: 20 excellent, 10 good, 10 fair and 8 poor. Marked improvement was noted in 20 of the 48 patients (38%). There were no major side effects.

CONCLUSION
Various methods of treating coccydynia are found in the literature but in our case series RF has given substantial pain relief for coccydynia patients. The most important factors determining success of the procedure is strict patient selection and the technique of the procedure. As the study group was small further randomized, prospective study are needed to fully evaluate the effectiveness of radiofrequency thermocoagulation in coccydynia.

A Comparative Study of the Use of Intra-articular Platelet Rich Plasma vs Hyaluronic Acid vs Botulinum Toxin Injection in Osteoarthritic Knee Joint Pain

Amitesh Pathak

BACKGROUND
Osteoarthritis (OA) is one of the most widespread chronic joint diseases worldwide. Hyaluronic acid (HA) plays a key role in determining the viscoelastic properties of the synovial fluid, in maintaining the structural and functional characteristics of the cartilage matrix.
Recently, platelet-rich plasma (PRP) has been attracting attention as an innovative and promising procedure to stimulate repair or replace damaged cartilage, due to the pools of growth factors (GFs) stored in the alpha granules of platelets.
Botulinum toxin type A (BoNTA), there is a growing body of evidence to support its role in pain modulation.

AIMS
The purpose of this study is to compare and evaluate the efficacy of intra-articular platelet rich plasma, HA and Botulinum toxin in osteoarthritis (OA) knee joint pain.

METHODS
Forty-five patients of either sex suffering from knee joint pain due to advanced osteoarthritis refractory to nonsteroidal anti-inflammatory drugs (NSAIDs) were randomly divided into three groups for intra-articular injection fluoroscopically. The
patients were followed up for a period of 6 months using visual analog scale (VAS) score and Oxford knee score questionnaire on a monthly basis.

RESULTS
There was no significant age difference among the three groups (p = 0.995). There was no significant difference between genders (p = 0.516). Baseline Oxford knee score and VAS score were similar in all 3 groups with no significant difference between them (p = 0.102 and p = 0.137 respectively).

An immediate pain relief was obtained in 80% of patients receiving PRP but lasting only for short duration (1.5 months). Patients receiving intra-articular hyaluronidase and Botulinum toxin showed a clinically and statistically significant pain relief for 6 months.

CONCLUSION
The study suggests that intra-articular PRP injection has an edge over standalone HA or BoNTA therapies for immediate pain relief. But as the duration of effect was not lasting, requires frequent injection of PRP. There was substantial pain relief with minimal or no side effects with HA and Botulinum toxin intra-articular injection.

Referred Shoulder Pain: A Diagnostic Dilemma
Ananth Prasad Rao

CASE REPORT
A 27-year-old female presented with history of shoulder pain of 2 days duration not responding to regular treatment. History of travelling overseas with heavy carry bags on the affected shoulder. Visited a general physician, referred to an orthopedician, physiotherapist, pain physician and obstetrician.

• Menstrual history
• History of amenorrhea present
• General physical examination
• Pulse—110/minute
• Blood pressure—102/60
• Pallor—present

LOCAL EXAMINATION
Physical tests and examination negative for shoulder involvement.

SYSTEMIC EXAMINATION
Tenderness present in the epigastric, right hypochondriac and right lumbar region.

INVESTIGATIONS
• Hb—7.8 mg/dl
• Urine pregnancy test—positive
• USG shoulder—no abnormality detected
• USG abdomen—free fluid in the abdominal cavity

TREATMENT
• Conservative tab paracetamol
• Tab tramadol
• Tab diclofenac
• Tab ranitidine
• Syp gelusil
• Physiotherapy

SURGICAL TREATMENT
• Laporoscopy, tubal ligation, evacuation
• Postoperative period uneventful
• Shoulder pain redistribution on 2nd postoperative day
• Patient discharged on 7th day.
DISCUSSION

Basic general physical examination is the key in the process of diagnosing any pathology. Eliciting a menstrual history would have helped in an accurate diagnosis. Knowledge of referred pain is an important tool in diagnosis and treatment in pain management.

Comparison of the Effect of the Intrathecal Buprenorphine vs Clonidine as an Adjuvant to Hyperbaric Bupivacaine on Subarachnoid Block Characteristics

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BACKGROUND AND AIMS

There are very few reported clinical trials with direct comparison of buprenorphine and clonidine on subarachnoid block characteristics. The aim of the present study was to compare the effect of buprenorphine 75 µg and clonidine 37.5 µg as an adjuvant to 15 mg of 0.5% bupivacaine in lower limb surgeries with respect to onset and duration of sensory and motor blockade as well as duration of postoperative analgesia and perioperative side-effects.

METHODS

One hundred patients of 15–60 years, either sex and ASA I/II undergoing elective lower limb surgeries under planned spinal anesthesia were included and randomly allocated into two equal groups (n = 50 each) to receive 3 ml of intrathecal 0.5% bupivacaine (heavy) with either clonidine 37.5 µg (group C) or buprenorphine 75 µg (group B) to a total volume of 3.25 ml. The patients were evaluated with respect to various sensory and motor block characteristics.

CONCLUSION

Intrathecal clonidine compared to buprenorphine is associated with significantly earlier onset and prolonger duration of sensory and motor blockade with favorable side-effect profile.

Bipolar Radiofrequency Ablation of Genicular Nerves in Patients with Pacemaker: A Case Report

Ashok Jadon

INTRODUCTION

Radiofrequency ablation (RFA) of genicular nerves (GN) provides good long-term pain relief in patients with knee joint pain. The common modality of RF used for knee genicular nerve ablation is unipolar technique however, unipolar RF is contraindicated in patients with implanted pacemaker due to risk of arrhythmia. In patients with pacemaker bipolar electrocautery has been used successfully therefore we hypothesized that bipolar RF can be used for RFA of genicular nerves. We present a case report of two cases where bipolar RF was used in patients with permanent pacemaker due to conduction defect in heart.

CASE REPORTS

Case 1

A 64 years old male patient with chronic knee pain was scheduled for RFA after patient refusal for knee implant due to poor cardiac reserve and associated high risk for surgery. He was on Tablet Losartan, Aspirin, Pregabalin, Amitriptyline and Tramadol with paracetamol. He has osteoarthritic changes in both knees but left knee was having sever pain. Permanent pacemaker was implanted after repeated syncopal attacks.

Case 2

A 56-years female with pain in right knee due to osteoarthritis was advised RFA due to side effects of analgesic drugs (gastric ulcer) and unwillingness for surgery. She was a known case of complete heart block and was on permanent pacemaker. She was on Tan Nifedipine retard, pregabalin, paracetamol and pantoprazole.

TECHNIQUE

Patients were informed about the procedure and informed consent was obtained. Physician help was taken regarding pacemaker status and necessary arrangements to manage any cardiac complications were done. Genicular RFA was done as done by standard
three point technique used by Choi et al. However, in our technique second RF needles were inserted near the first needles at approximately 10 mm distance and both needles were stimulated for 90 seconds at 80ºC. Two cycles were done by rotating the needles by 180º. Pain was assessed by Oxford Knee Score and 100 mm visual analog scale before and after the procedure at day 1, day 7, and at every month till 6 months. Both Patients have shown >50% relief till the end of 6 months. No intraoperative and post-procedure complications were noticed.

CONCLUSION
Two cases of chronic knee pain were managed successfully with bipolar RFA where conventional RFA was risky due to implanted pacemaker. Experience with more number of cases is required before any recommendation can be made in favor of bipolar RFA for genicular nerve ablation.

A Prospective Randomized and Double Blind Study to evaluate the Efficacy of Magnesium Sulphate on Postoperative Analgesic Requirement in Patients undergoing Laparoscopic Cholecystectomy

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BACKGROUND AND AIMS
The aim of the present study was to evaluate the efficacy of injection magnesium sulphate 50 mg/kg as premedication upon postoperative pain and analgesic requirement and to compare the same with saline in patients undergoing elective laparoscopic cholecystectomy under general anesthesia.

METHODS
After obtaining institutional ethical committee approval, 100 patients of ASA grade 1 and 2 undergoing laparoscopic cholecystectomy under general anesthesia were randomly allocated into two groups to receive either 50 mg/kg magnesium sulphate in normal saline to a total volume of 5 ml (group M, n = 50) or 5 ml of normal saline (group S, n = 50) as premedication prior to general anesthesia. The patients were continuously monitored for postoperative pain using visual analog scale in the immediate postoperative period and subsequently at 2 hours intervals for the next 24 hours. Injection tramadol 1 mg/kg was given as the rescue analgesic (VAS ≥ 4).

RESULTS
Both the groups were comparable with respect to demographic variables. There was no statistically significant difference in the postoperative VAS scores and tramadol requirement among the groups.

CONCLUSION
Magnesium sulphate 50 mg/kg premedication is ineffective in reducing postoperative pain and analgesic requirement in patients undergoing laparoscopic cholecystectomy under general anesthesia.

Comparative Evaluation of Intra-articular Bupivacaine vs Intra-articular Bupivacaine and Dexmedetomidine for Postoperative Analgesia in Arthroscopic Knee Surgery

Atish Pal

BACKGROUND
A myriad of agents have been studied for their potential use in attenuating postoperative pain following knee arthroscopy, but despite multiple studies with various agents, no single agent has been found to be clearly superior to the rest. In such a scenario, dexmedetomidine provides an interesting option.

AIM
Assess the postoperative analgesic effect of intra-articular dexmedetomidine administered as an adjuvant with bupivacaine in knee arthroscopy.
METHODOLOGY

Sixty patients undergoing elective unilateral knee arthroscopy under GA were randomly assigned to two groups (n = 30). Group BS received intra-articularly 19 ml 0.5% bupivacaine and 1 ml isotonic saline (total volume 20 ml). Group BD received 100 μg dexmedetomidine (1 ml) added to 19 ml 0.5% bupivacaine. Pain assessment visual analog scale (VAS) was done at regular intervals for 24 hours and rescue analgesia given accordingly.

RESULTS

Increased VAS scores (p-value –0.005, <0.001, 0.002) and increased use of supplementary analgesic (p-value – 0.042, 0.026, 0.024) was seen in group BS compared to group BD, at intervals of 30 minutes, 1 and 2 hours. Mean duration of analgesia (time for first analgesic requirement) was longer in group BD (median 4 hours) compared to BS (median 1 hour) (p-value 0.012).

CONCLUSION

Dexmedetomidine administered as an adjuvant to bupivacaine, improves the quality and duration of postoperative analgesia after knee arthroscopy.

Radiofrequency Neuroablation of Unilateral Multiple Level Cervical Medial Branch of Dorsal Rami using Single Needle Entry Posterior Approach

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BACKGROUND AND AIMS

Cervical facet arthropathy is an important cause for chronic neck pain. The recommended treatment for this condition is radiofrequency neuroablation of medial branch of dorsal rami. There have been attempts to find safe and effective ways to perform this procedure. We aim to describe a single needle entry posterior approach of radiofrequency neuroablation of unilateral multiple level cervical medial branch of dorsal rami.

METHODS

This study included forty patients with unilateral cervical facet pain, confirmed with diagnostic facet joint injection. Single needle entry posterior approach was done on twenty patient, group A. With patient in prone position, a vertical line connecting the waists of three adjacent cervical vertebrae was drawn with posterior-anterior fluoroscopic view. Entry point was at the most inferior vertebrae level with the cannula pointed vertical downward. Subsequent two levels were done with the cannula angled superior guided by lateral fluoroscopic view. Duration of procedure, difference in pre- and post-procedure pain score, patient’s comfort during procedure were compared with twenty consecutive radiofrequency neuroablation with multiple needle puncture posterolateral approach, group B.

RESULTS

Prior to neuroablation, all patients achieved satisfactory motor and sensory stimulation. The duration of procedure was significantly shorter in the group A. There was no significant difference in reduction of pain score between groups. Significantly more patients in group A had better satisfaction (needle soreness) during procedure compared to group B.

CONCLUSION

With similar efficacy of usual posterolateral approach, current technique offers advantages such as decreased radiation exposure for both patient and physician; improved patients’ comfort with only single skin puncture; and better safety profile as needle advances with lateral view guidance.

Efficacy and Safety of Intradiscal Ozone in Lumbar Disk Herniation

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BACKGROUND

Back pain is a multifactorial element. In a large percentage of patients, a degenerated intervertebral disk seems to be the source of chronic low back pain (2). Due to the disadvantages of operative discectomy, various percutaneous, minimally invasive intradiscal techniques that minimize the invasive nature of surgery, while sparing healthy tissue and avoiding or minimizing complications have been used. Most of these techniques—in contrast to the surgical discectomy—have the common goal of decompressing the nucleus so that there is a change in volume and an accompanying reduction in the pressure on the nerve and/or a lessening of the inflammatory reaction as a result. Examples of these minimally invasive treatments that have been advanced to treat discogenic pain, such as intradiscal injections, intradiscal electrothermal therapy (IDET), disctrode, biacuplasty, intradiscal radiofrequency (RF) thermocoagulation, and RF treatment of the ramus communicans. But, these techniques are usually only possible in the case of a so-called 'contained' hernia. Ozone discolysis Intradiscal injection is a minimally invasive, less expensive procedure that can be utilized for ‘contained,’ as well as for ‘noncontained’ spinal discus herniation and may induces disk shrinkage without access to the spinal canal. It may also alleviates nerve root inflammation. As it blocks inflammatory reactions in intraforaminal spaces (due to limited intradiscal space and leakage of gas into this space). It also decreases vascular stasis, by improving microcirculation and oxygen saturation, thus may alleviate pain through relieving hypoxic related pain may provide rapid and long-term pain relief. The aim of the study is to determine the efficacy and safety of intra-discal ozone injection on disability of the patients with LBP caused by prolapsed disk.

METHODS

This study was carried out in a retrospective, noncontrolled manner. Participants were adults aged at least 18 years with low back pain due to lumbar disk herniation or degenerative disk disease with no beneficial effect had been achieved in any patient during at least 8 weeks conservative treatment with pain of 5 or more on a visual analog scale radiating to an area appropriate to a herniated disk with (4) owetry disability index (ODI) scoring 21% or more 5 to 8 ml of 30 µg/ml O₃ is injected slowly intradiscal over 20 to 30 second under fluoroscopic guidance.

The efficacy of the procedure was assessed by the ODI which is designed to tell how back pain affects ability to function in every day life.

Magnetic resonance imaging at follow-up (3–8 months). were evaluated and compared to the preoperative images. The change in the herniation volume was recorded in axial and sagittal views.

RESULTS

The procedure was performed on a total of 48 patients between January 2012 and June 2015. The mean age of the patients was 57.8 ± 9.3 years, and 25% (12 patients) of them were women. The mean symptom duration was 5.8 ± 4.3 months. Before applications. The mean time to complete the procedure was approximately 20 minutes. Patients were nonresponsive to conservative treatment modalities. Symptom duration was 3 months or more in 72%. None of the patients submitted to the treatment presented motor palsy. In all cases, MRI was used to confirm a protruded or extruded disk/s between L2 and S1. There were 38 patients with single level involvement, 7 with 2 levels and 3 with three levels.

There was significant reduction in the mean ODI at follow-up period compared to preinjection values.

In most patients, the size of the herniation was reduced at 6 to 9 months. Seven cases (14.5) required 2nd injection within the 1st year and 9 (18.75%) patients required surgery.

No complications were recorded in the early or late period.

CONCLUSION

Ozone chemonucleolysis is a simple, low-risk, less expensive procedure that has significant and positive effect on patients with disk herniation unresponsive to other conservative and offers a safe means of treating lumbar disk herniation without surgery. It bridges between existing conservative measures and surgical discectomy and is particularly useful in those patients without a clear-cut indication for surgical removal of the disk herniation.

Evaluation of Celiac Plexus Block by Computed Tomography-guided Transaortic Approach following Failure of Classic Approach

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BACKGROUND

Several techniques for celiac plexus block (CPB) have been described after frequent difficulties in classic approach. In this study, we used the computed tomography (CT) guidance for CPB transaortic approach with a road map for site of needle entry tailored to each patient after failure of classic approach in upper abdominal cancer pain.
METHODS
Sixty patients in whom the classic approach had technical problems or ineffective previous classic technique was included in the study. A percutaneous single needle CT-guided transaortic celiac plexus block was done at L1 vertebra level preceded by an individualized patient’s CT image simulated block in which geometric parameters for the distance, angle and depth of the blocking needle were measured. Duration of the block, visual analog score (VAS) for pain, daily morphine consumption and adverse effects were recorded.

RESULTS
Five patients were excluded from the study after geometric parameters were taken, because we could not pass the needle through this trajectory without injuring the left kidney. The mean VAS and daily morphine consumption were significantly decreased after the block. Apart from hypotension and diarrhea there were no major adverse effects.

CONCLUSION
The CT-guided single needle transaortic CPB block for intractable upper abdominal cancer pain is proved to be safe and reliable procedure in difficult and failed cases of classic approach.

Posteromedian Transdiscal Superior Hypogastric Plexus Block: Fluoroscopic-guided Approach vs Computed Tomography-guided Approach

Dina Nabil Abbas Sobhi

BACKGROUND AND AIMS
This study was done to compare superior hypogastric plexus block (SHPB) with posteromedian transdiscal approach using fluoroscopic guidance vs computed tomography (CT) guidance for intractable pain in patients with pelvic cancer.

METHODS
Sixty patients were randomly allocated into two groups: the fluoroscopic-guided or the CT-guided posteromedian transdiscal SHPB. Visual analog score for pain, daily morphine consumption, duration of the procedure, adverse effects and patient satisfaction score were recorded.

RESULTS
The mean visual analog score, daily morphine consumption were significantly decreased in both groups and the satisfaction score was significantly increased in both groups after the procedure. However, there was no significant difference between groups but the incidence of paresthesia and vascular perforation were significantly higher in the fluoroscopy group and the failure rate was significantly higher in CT group.

CONCLUSION
Superior hypogastric plexus block posteromedian transdiscal approach using either fluoroscopic guidance or CT guidance is effective with higher success rate in fluoroscopic approach but the CT-guided approach is safer and the fluoroscopic approach is easier.

Modified Approach to Rat Spinal Catheterization: Effect of Intrathecal Injection of Melissa Officinalis on Heat and Formalin-induced Pain in Male Rats

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BACKGROUND AND AIMS
The increase of information about processes of the spinal cord has led to the identification of specific drugs that can inhibit pain transmission through the spinal cord. Lemon balm or Melissa officinalis is one of the oldest herbal medicines commonly
used in traditional medicine, which some studies have investigated its analgesic effect. The study is an attempt to investigate the effects of intrathecal administration of Melissa officinalis on the pain induced by heat and formalin.

METHODS
In this experimental study, seventy male Wistar rats with an average weight of 270 to 320 gm were randomly divided into 5 groups: control; sham, that received 25 µl of saline through the spinal catheter; and three experimental groups, that received 5, 10 or 20 mg/kg Melissa officinalis via the spinal catheter respectively. Five days after catheterization of the spinal cord from the lumbar region under anesthesia, the effects of Intrathecal administration of Melissa officinalis on heat and formalin-induced pain were evaluated. Data were analyzed by using one-way ANOVA.

RESULTS
Intrathecal injection of Melissa officinalis blocked heat-induced pain in male Wistar rats dose-dependently. Maximum analgesia was observed 30 minutes after the injection. Furthermore, intrathecal administration of MO alleviated both acute and chronic phases of formalin-induced pain. On the other hand, motor block was not observed in any of the above mentioned groups.

CONCLUSION
The results showed that intrathecal administration of Melissa officinalis could significantly improve hot water and formalin induced pain in male Wistar rat.

The Effects of Topical and Intraperitoneal Administration of Eugenol on Acute Corneal Pain of Male Rats

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BACKGROUND AND AIMS
Most of the sensory nerves of the cornea were made of poly modal pain nerves that response to the thermal, mechanical or chemical stimuli. Eugenol, as an analgesic and anti-inflammatory agent, was widely used in dentistry. Therefore, the purpose of the study was to determine the effects of topical and intraperitoneal (IP) administration of Eugenol on acute corneal pain of male rats.

METHODS
In this experimental study, seventy two males Wistar rats were randomly divided in the following groups: topical and IP control (received saline), positive control (received morphine 3.5 mg/kg), and six experimental groups that received 3, 10 and 30 mg/kg Eugenol topically and intraperitoneally. One hour after administration of the drug, acute corneal pain was measured via the rubbing of the eyes in 30 seconds. Acute corneal pain was induced by 40 µl of 5M sodium chloride in the eye.

RESULTS
Morphine significantly reduced the number of eye rubbing caused by 5M sodium chloride. Topical or intraperitoneal administration of different doses of Eugenol significantly reduced corneal pain. Intraocular and intraperitoneal dosing showed the best analgesic effect was observed at 10 mg/kg dose of topical and 30 mg/kg of intraperitoneal. There were not significant differences between identical concentrations of Eugenol in both administrations.

CONCLUSION
Analgesic effect of eugenol on the acute corneal pain can be considered in the future research.

Applying Safest and Cost-effective Classic Grounding Method in End of Life Care (Bedridden/Cancer Patients)

Jithu Sreekumar

BACKGROUND AND AIMS
Although the health benefits of walking bare footed was known long years back, we are staying away from touching the ground and we are in search of alternate ways/drugs to stay stress free. There have been preliminary studies on the effect of grounding on cortisol levels and inflammation. By reducing the cortisol level, we can control patients anxiety, depression, pain and sleep pattern.
OBJECTIVES

The primary objective of this study is to describe the biological effects of grounding by measuring cortisol levels and subjective reporting of sleep, pain and stress.

METHODS

A pilot study was carried out. Twenty-five patients aged 35 to 45 were grounded by using a probe connection one end to the toe and other end to the moist ground. Samples taken from saliva after 3 hours of grounding. Subjective reporting of pain, anxiety and sleep was noted.

RESULTS

There was marked decrease in cortisol levels and indirectly decrease in stress levels, inflammation and pain.

CONCLUSION

Based on my study findings, found grounding is safe and cost effective way of maintaining patients biological, mental aspects, especially during end of life care.

Dry Needling in Symptomatic Supraspinatus Calcific Tendinopathy: An Early Experience

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BACKGROUND

Calcific tendinopathy is a common cause of shoulder pain. It is caused by deposition of calcium hydroxyapatite crystals in the rotator cuff tendons, especially in the supraspinatus. Dry needling is one of the most recently described ultrasound-guided intervention for its management.

AIMS

• To study the efficacy of dry needling in terms of symptomatic improvement.
• Time taken for clinical response and resolution of calcification.

MATERIALS AND METHODS

Eleven patients with shoulder pain and visible radiographic calcification were included in the study, started since 13 months. Patients were asked to rate their pain according to numeric rating scale-11 (NRS-11). Dry needling was performed using 18G needle under standard sterilized conditions. Upon completion of the dry needling from the same needle subacromial-subdeltoid bursa was injected with 1 ml triamcinolone (40 mg/ml) and 4 ml bupivacaine. Patients were instructed to immobilize the shoulder joint for 1 week, following which physiotherapy was started. Patients were followed up after 1, 2 weeks, 1, 3 and 6 months and NRS-11 was recorded at 2 weeks and 6 months.

RESULTS

Eight patients have completed their 6 months follow-up and 2 have completed their short-term follow-up. Mean preprocedure NRS was 7.2, at 2 weeks follow-up it was 4.8 and after 6 months it was 3.3. Five patients have shown complete radiographic resolution of calcification and reduction in size in remaining.

CONCLUSION

In this prospective ongoing study, the results are quite encouraging, however large study and comparisons with other techniques are required for optimization of this treatment modality.
Lipoma Arborescens in the Bicipitoradial Bursae: A Rare Anterior Painful Elbow Swelling with Dual Morphology

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BACKGROUND AND AIMS

Lipoma arborescens is a benign rare synovial neoplasm characterized by hyperplastic proliferation of fatty tissue that replaces the subsynovial connective tissue layer. Lipoma arborescens usually grows inside the joints, but it is also rarely found inside a bursae. This is a case of lipoma arborescens inside bicipitoradial bursae of a 50 years lady. Although six cases of lipoma arboresens in bicipitoradial bursae had been previously described in literature, this case is unique as features of two different types of morphology documented in the same lipoma. Here, in this write-up, we describe common clinical features and sonographic findings of lipoma arborescens in a middle-aged Bangladeshi woman.

Role of Denervations in Sacroiliac Joint Syndrome

Malvika Prasad Tendulkar

BACKGROUND AND AIMS

Chronic low back pain is a well-known entity. Sacroiliac (SI) joint syndrome is still an underdiagnosed entity although, it contributes about 15 to 20% of cases suffering from low back pain.

Sacroiliac joint syndrome commonly presents as pain in the gluteal region radiating to back of the thigh, buttocks, side of the leg up to the foot. With clinical suspicion of SI origin of pain, intra-articular injection is the only means to confirm the diagnosis.

METHODS

We report the study conducted at our center of a consecutive series of 50 SI joint radiofrequency (RF) denervation in last 2 years performed in 33 patients with sacroiliac syndrome. All patients underwent diagnostic cum therapeutic SI joint injections with local anesthetic with steroid before denervation. Changes in visual analog pain scores, pain diagrams, physical examination (palpation tenderness over the joint, myofascial trigger points overlying the joint) and use of drugs were assessed before and after denervation.

RESULTS

The criteria for successful RF denervation were at least a 50% decrease in visual analog scale (VAS) for a period of at least 6 months; 36.4% of patients (12–33) met these criteria. Successful denervation was associated with a change in the pain diagram and a reduction in the pattern of referred pain, a normalization of SI joint pain provocation tests, and a reduction in the use of drugs.

CONCLUSION

Sacroiliac joint is a putative pain generator at should be considered in the differential diagnosis of low back pain which is often missed. SI joint pain is best diagnosed by intra-articular injection under fluoroscopy. Apart from prolotherapy, cryotherapy the best results have been observed with RF lesioning. Our study suggests that RF denervation of the SI joint can significantly reduce pain in selected patients with sacroiliac syndrome for a protracted time and hold promise for longer lasting periods of pain relief.

The Role of Trigger Point Injections as an Effective Treatment for Myofascial Pain Syndrome

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BACKGROUND AND AIMS

To show the effectiveness of trigger point injection on patients of myofascial pain syndrome (MFPS) assessed by visual analog scale (VAS) score before and after treatment.
**METHODS**

- Informed consent obtained from patient.
- Institutional Ethical Committee clearance obtained.
- The study population consisted of 31 patients (24 males and 7 females), with MFPS, having active trigger points, with no other systemic disease.
- The VAS score was used to measure perceived pain. It was assessed on 1st visit (preinjection) and on 1 month (postinjection).
- The trigger points were identified and injection xylocaine (1%)—0.5 ml, was given in an OT set-up with all resuscitation facilities available, at each trigger point, at interval of 1 week, minimum three such, and response assessed at 1 month post-injection.
- Student's paired t-test was used to analyze the data, and p-value of < 0.05 was considered significant.

**RESULTS**

The VAS score was assessed preinjection and postinjection and the two scores were compared, by applying paired student’s t-test. A significant improvement in the scores was noted. Out of the 31 patients included in the study, two patients did not have much change in their pain score, two patients had worsening of their pain, and 27 patients showed a significant improvement.

**CONCLUSION**

Our study has shown the effectiveness of trigger point injections in patients with MFPS, in respect of their measurable pain score and as an economical treatment option which is readily acceptable to the patient.

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**Prevalence and Characteristics of Pain among Critically Ill Cancer Patients**

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**BACKGROUND AND AIMS**

Pain is a distressing symptom common to all stages and ubiquitous at all levels of care in cancer patients. However, there is a lack of scientific literature upon the prevalence, predictors and the characteristics of pain in critically ill cancer patients. The aim of this study was to elucidate the prevalence of pain, moderate to severe pain, neuropathic pain, chronic pain and pain as the most distressing symptom in critically ill cancer patients.

**METHODS**

We prospectively interviewed 126 cancer patients at the time of admission to an oncomedical intensive care unit (ICU). The patients were assessed for the presence of pain, its severity, sites, duration, nature and its significance as a distressing symptom. Numerical rating scale (NRS) and self-report version of Leeds assessment of neuropathic signs and symptoms (S-LANSS) were used to elucidate intensity of pain and neuropathic pain respectively. Age, sex, primary site and stage of cancer were considered for a possible correlation with the prevalence of pain.

**RESULTS**

Out of 126 patients included in the study 95 (75.40%), 79 (62.70%), 34 (26.98%) and 17 (13.49%) patients had pain, moderate-severe chronic and neuropathic pain respectively. The average duration of pain was 171.16 ± 716.50 days. Fifty-eight (46.03%) and 42 (42.01%) patients had at least one and more than or equal to two neuropathic pain symptoms respectively.

**CONCLUSION**

The prevalence of pain among critically ill cancer patients is high. Assessment for pain at the time of ICU admission would ensure appropriate assessment for the presence, type, severity and the significance imparted to it.

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**A Prospective Observational Evaluation of a New Imaging Protocol: Ultrafluoro-guided Caudal Epidural**

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BACKGROUND AND AIMS
Fluoroscopic guidance is considered as the gold standard for image-guided caudal epidural steroid injection (CESI). However, significant radiation hazard and associated cumulative biological side effects to patient, physician as well as bystanders is a concern worth considering. The authors have devised a unique image-guided protocol that embrace the advantages of ultrasonography (USG) and fluoroscopy, counterbalances each other’s disadvantages and have termed it as ‘Ultrafluoro guided caudal injection.’ The imaging protocol involves using USG as the primary imaging modality with fluoroscopic confirmation of accurate needle placement, flow patterns and targeted drug delivery.

METHODS
A prospective observation evaluation of our imaging protocol ‘Ultrafluoro guided CESI’ in 50 consecutive patients undergoing CESI for chronic low back pain with or without lower extremity pain in a pain management clinic. The demographic characteristics, number of attempts required, contrast flow pattern and its correlation with the site of pain, fluoroscopy time in seconds, procedure related pain, immediate pain relief and complications were recorded, tabulated and analyzed using MS Excel.

RESULTS
The mean age, weight and sex distribution was 46 ± 15.8 years, 68 ± 26.2 kg and 55:45 (male:female) respectively. Fifty-three percent of the patients had accompanying lower extremity pain and the most common structural abnormalities included disk protrusion, disk degeneration, facet joint arthropathy and lumbar canal stenosis. The mean C Arm time was 10.4 ± 1.8 seconds. The post-procedure complications observed were local pain (22%) and temporary numbness (10%). Post-procedure pain relief was observed in 92% of the patients with 80% of the patients reporting more than 50% pain relief in the immediate post-procedure period. Eighty percent of the patients reported more than 50% pain relief at 1 month follow-up.

CONCLUSION
Ultrasound guidance allowed accurate epidural placement of needle on first attempt in 88% of patients with anterior epidural dye spread in 76% of the patients and intravascular placement in only 8% of patients. The ultrafluoro image guidance ensures safety, efficacy and high success rate while performing CESI. The ultrasonography and fluoroscopy should be considered complimentary rather than an alternative while performing CESI.

Evaluation of Analgesic Effects of Intrathecal Eugenol in Male Rats
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BACKGROUND AND AIMS
Eugenol, the most important substance of clove plant (Eugenia caryophyllata) extract, has been widely used as a local relief for pain and inflammation in dentistry. To our knowledge, the beginning time and duration time of intrathecal injection of eugenol were not determined. Thus, the purpose of this study was to investigate the analgesic effects of intrathecal injection of eugenol regarding the beginning and duration time using thermal pain method (water: 52ºC) in male rats.

METHODS
In this experimental study, 51 male Wistar rats were divided into three groups of eugenol (5, 10 and 15 µl) and three groups of normal saline (5, 10 and 15 µl). Lumbar intrathecal catheters were implanted under anesthesia. Five days later, different volumes of eugenol and normal saline (5, 10 and 15 µl/rat) were administrated intrathecally and the withdrawal tail responses to high temperature (51ºC) water (tail immersion) at different times intervals (precateterization, preadministration, 10, 30, 180, 360, 720, 1440 minutes after eugenol administrations) were evaluated. Data were analyzed using one and two way ANOVA and LSD post hoc tests.

RESULTS
Eugenol induced analgesia dose-dependently. Furthermore, eugenol at higher doses induced longer analgesic effect (p < 0.05). Higher doses of eugenol caused long-term paralysis and immobility. The beginning time of analgesia was 10 minutes after injection of eugenol and maximum analgesia was seen after 30 minutes (p < 0.05).

CONCLUSION
The observed analgesic effect of intrathecal eugenol can be helpful in the clinical use at the future.
Evaluation of Success Rate of Brachial Plexus Block by Selective Cord Stimulation

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AIMS AND OBJECTIVES
To study and compare the success rate of brachial plexus block achieved by stimulation of individual cord, i.e. medial, lateral and posterior cord.

INTRODUCTION
Infraclavicular block is indicated for surgery of forearm, wrist, and hand. It is performed by localizing one of the cords of brachial plexus and injecting the local anesthetic solution at that location. In this study, we compared the success rate of brachial plexus block achieved by stimulation of individual cord, i.e. posterior, medial and lateral, with the help of nerve stimulator at a stimulator current of 0.4 mA or less given by infraclavicular vertical brachial plexus block (VIP) approach.

MATERIALS AND METHODS
A total of 108 patients who were planned to undergo forearm or hand surgeries were divided into three groups. Infraclavicular brachial plexus block was performed by using 50 mm insulated nerve stimulator needle and B Braun stimuplex RC nerve stimulator with a initial stimulator current of 1.0 mA with 2 Hz frequency. The patients belonging to the respective groups would receive infraclavicular brachial plexus block after attaining the desired evoked muscle response (EMR).

RESULT
After prospective randomized comparative study which was carried out in 108 patients, result achieved was that, in comparison to lateral and medial cord, posterior cord blockade was associated with rapid onset of motor and sensory block and also decreased incidence of block failure.

Post Mastectomy Pain Syndrome: Pain Hits a Nerve

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INTRODUCTION
Post mastectomy pain syndrome (PMPS) is a type of chronic neuropathic pain disorder that can occur following breast cancer procedures, that remove tissue in the upper outer quadrant of the breast and/or axilla causing long-term disabilities interfering with sleep, performance of daily activities including use of the affected arm, leading to frozen shoulder or complex regional pain syndrome (CRPS).

INCIDENCE
Twenty to 68% of women are affected, although many cases are under reported. This condition can develop up to several months after surgery and can persist for 3 to 6 years. In our center, 9.8% of women are affected.

SITE AND CLINICAL FEATURES
Pain typically occurs in the upper arm, underarm, shoulder and chest wall, areas served by the damaged cutaneous branches of intercostal nerves (T4–T5) and intercostobrachial nerve. It could also occur in the surgical scar. Pain has been described as a burning sensation, shooting or throbbing in nature. Symptoms might also include abnormal sensations, such as an electric-shock type of pain that overlies a constant aching and burning feeling. Aggravated by shoulder strain, household work or even simple stretching.

RISK FACTORS
A tumor located in the upper, outer quarter of the breast and the extent of axillary intervention. Other factors include treatment with radiation or chemotherapy after surgery, younger age (under 40), and larger tumor size.

MANAGEMENT
Options involve NSAIDS, antidepressants, nerve block, injections with local anesthetics and steroids to the pain limited to surgical scar. Nonpharmacological measures include massage therapy, acupuncture, reflexology and counseling. Physical therapy with arm and shoulder exercises.
CONCLUSION
Although recent advances in the diagnostic and surgical procedures have reduced the frequency of the more invasive surgical procedures, there is still a considerable risk of developing PMPS after treatment of breast cancer.

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A Rare Case of Kinking of Intrathecal Pump Catheter in a Patient with Metastatic Endometrial Carcinoma

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INTRODUCTION
Intrathecal drug delivery system (ITDDS) is an effective treatment tool for various chronic pain conditions including cancer pain. Although the efficacy of ITDDS has been proved beyond doubt, it is associated with various complications, like catheter migration, catheter breakage, catheter obstruction, catheter kinking, catheter leak and tip fibrosis. Catheter kinks and obstructions from various causes can occur both at the spinal anchoring site and in the pump pocket site.

CASE REPORT
We report a case of 58-year-old female who had undergone TAH-BSO for stage 1 carcinoma endometrium 3 years back. Intrathecal drug delivery system was planned and placed for the said patient for pain relief. During the second refill we found significant residual drug in the pump during aspiration. For investigating, this problem we injected nonionic dye (Iohexol) via the CSF port under fluoroscopic guidance to find out the cause of residual drug in pump. We observed resistance while injecting the dye and noticed that the dye was not passing further near the anchoring site. Thus, we decided to reoperated the patient near that site and found that the catheter had kinked due to the giving away of sutures of the butterfly anchor. We, then, released the kink and after properly checking the patency of the catheter along with free CSF flow, the same catheter was fixed again.

CONCLUSION
Although kinking is not a serious life threatening complication, it can be problematic as it prevents drug delivery which is the main purpose of the intrathecal pump.

Comparison of Effect of Intrathecal 0.5% Bupivacaine and 0.75% Ropivacaine on Postoperative Analgesic Efficacy

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BACKGROUND AND AIMS
Ropivacaine is a newly introduced local anesthetic that may be a useful alternative to low-dose bupivacaine for outpatient spinal anesthesia. However, its relative potency to bupivacaine and its dose-response characteristics are unknown. This prospective, double-blind, randomized study was conducted to compare the anesthetic and analgesic efficacies of equal volumes of intrathecal 0.5% bupivacaine and 0.75% ropivacaine in patients undergoing lower abdominal surgeries.

METHODS
After obtaining Institutional Ethical Committee approval, 60 patients of ASA grades 1 and 2 undergoing various surgeries under spinal anesthesia were randomly allocated into two groups to receive either 3 ml of 0.5% bupivacaine (group B, N = 30) or 0.75% ropivacaine (group R, N = 30). The sensory block onset time (T10), motor block onset time (Bromage 0), time to two segment sensory regression, motor block duration, time to first rescue analgesic requirement were monitored and compared among the groups.
RESULTS
Both the groups were comparable with respect to demographic profile and subarachnoid block characteristics. The duration of postoperative analgesia was 254 ± 62 and 268 ± 71 minutes in group B and R respectively (p = 0.113). The incidence of perioperative adverse effects was comparable among the groups.

CONCLUSION
Equipotent doses of plain ropivacaine and heavy bupivacaine are comparable with respect to the duration of sensory block, motor blockade, postoperative analgesia and incidence of adverse effects.

Comparison of Intra-articular Injection of Platelet Rich Plasma with Intra-articular Steroid in the Management of Chronic Low Back Pain due to Sacroiliac Joint Dysfunction

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BACKGROUND
The efficacy of intra-articular platelet rich plasma in reducing chronic low back pain has been investigated and showed that a single injection of platelet rich plasma provides significant reduction in pain intensity and improvement in disability score. The aim of this study was to compare intra-articular injection of platelet rich plasma with intra-articular steroid injection in the management of chronic low back pain due to sacroiliac joint dysfunction.

MATERIALS AND METHODS
Fifty patients were studied and divided into two groups: 25 patients received 40 mg of triamcinolone intra-articularly and 25 patients received autologous platelet rich plasma intra-articularly. We recorded the pain intensity and disability score on 24 hours, 1, 3 and 6 months post-procedure.

RESULTS
At 1, 3 and 6 months post-procedure, 100, 88 and 76% of patients, respectively, obtained significant pain relief after single injection of PRP.
In contrast, the subjects who received intra-articular triamcinolone injection had a short-term pain relief. At 3 and 6 months post-procedure, only 20 and 28% of patients, respectively continued to have significant pain relief.

CONCLUSION
Single intra-articular injection of platelet rich plasma provides significant pain relief and functional improvement in patients with sacroiliac joint pain, though multiple injections may be required.

Does Pre-emptive Gabapentin or Pregabalbin reduce Acute Postoperative Pain after Lower Limb Orthopedic Surgery under Subarachnoid Block? A Randomized Controlled Study

Priyanka Ghosh

BACKGROUND
Gabapentin and pregabalbin have been used in the management of neuropathic pain and epilepsy. But there is paucity of studies comparing both the drugs in acute postoperative pain. This study aims to compare the efficacy of gabapentin and pregabalbin as pre-emptive analgesic to prevent postoperative pain in lower limb surgeries.

METHODS
One hundred and fifty patients of either sex in ASA grades I and II were randomly allocated to one of the three groups of 30 each. Patients in group A were given gabapentin 600 mg, group B were administered pregabalbin 75 mg and group C were administered Placebo. Two doses of each drug were given per oral—12 hours before surgery and 2 hours before surgery under...
subarachnoid block. Pain was assessed by visual analog scale immediate postoperatively and every 2 hourly thereafter. Time since spinal anesthesia to first dose of analgesic (diclofenac) and total dose of analgesic in first 36 hours was recorded.

RESULTS
First dose of analgesic was after 11.22 hours in pregabalin group, 7.3 hours in gabapentin group and 4.62 hours in control group, (p < 0.01). Total dose of analgesics in 36 hours in pregabalin group is 115.74 mg, 121.68 mg in gabapentin group and 135.5 mg in control group, which was significant in comparison to control group but not significant if the two drugs are compared. Dizziness and somnolence were the side effects mainly seen in these groups.

CONCLUSION
We conclude that 75 mg pregabalin is better than 600 mg gabapentin as pre-emptive analgesic in lower limb orthopedic surgery when given in two doses before surgery. Both the drugs are better than a placebo.

Parasacral vs Labat Approach
Rika Marlina

BACKGROUND AND AIMS
Sciatic block used by anesthesiologist for leg and foot surgery. Successful of sciatic block requires anatomical landmark. There are several approaches for sciatic block, such as labat approach that uses series of anatomical landmarks and parasacral that uses more simple anatomical landmarks. The aim of this study was to compare successful rates of labat and parasacral approach using nerve stimulator for leg and foot surgery. In labat group, a line was drawn from greater trochanter to posterior superior iliac spine, from midpoint of this line, the second line was drawn perpendicularly and extended caudally for 4 cm, the end of this landmark represent the needle entry. In parasacral group, a line was drawn from superior posterior iliac spine to ischial tuberosity then needle entry marked on this line at 6 cm from posterior superior iliac spine.

METHODS
Double blind randomized controlled trial was conducted on 32 patients who underwent leg or foot surgery at two hospitals in Indonesia. 30 cc of 0.4% bupivacaine was injected when a proper motor response was elicited at 0.3 mA. Assessment of both sensory and motor block used pin-prick and Bromage test in 5 minutes interval for 30 minutes. Comparison of successful rates were analyzed using Fischer’s exact test, p < 0.05 was considered significant differences.

RESULTS
Successful rate in parasacral group found in 15 patients compared within labat group only in 8 patients, with p-value 0.015.

CONCLUSION
Successful of parasacral approach was higher than labat approach in leg and foot surgery patients.

Comparison of Intravenous Fentanyl vs Patient-controlled Epidural Analgesia using Bupivacaine and Fentanyl for Postoperative Pain Relief in Patients with Lower Limb and Abdominal Surgeries
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INTRODUCTION
Parenteral opioids are traditionally used for pain management following abdominal and lower limb surgeries.

AIMS
To evaluate the efficacy of patient controlled epidural opioid (fentanyl) analgesia vs intravenous fentanyl of as needed opioid analgesia for postoperative pain relief and patient satisfaction.

ADDRESS
This prospective randomized study was conducted in Netaji Subhash Chandra Bose Medical College, Jabalpur, Madhya Pradesh, India.
METHODS
Patient undergoing lower abdominal and lower limb surgeries were randomly divided into two groups (20 patients each). Group A: Patients given general anesthesia and postoperative intravenous fentanyl (intravenous group), group B: Patient given general anesthesia with central neuraxial block or alone central neuraxial block (epidural + spinal) or epidural alone where postoperative pain will be managed with patient-controlled epidural analgesia (PCEA) using fentanyl and bupivacaine (PCEA group). Patient was assessed for pain, sedation, pulse rate, blood pressure, respiratory rate, oxygen saturation and side effects.

RESULT
Total fentanyl consumption of PCEA group was significantly lesser than intravenous group. Patient-controlled epidural analgesia group had better pain relief and patient satisfaction.

A Comparative Study of Three different Methods of Epidural Catheter Fixation

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INTRODUCTION
Epidural catheter (EC) dislocation has been noted as one of the important causes responsible for early termination of regional analgesia. We evaluated and compared three different methods of EC fixation for catheter dislocation and quality of analgesia.

MATERIALS AND METHODS
In 60 patients scheduled for elective surgeries, a multiorificed epidural catheter (lumbar/thoracic) was inserted for postoperative analgesia and fixed by three different techniques. Method A—EC fixed by looping and taping (our control group). Method B—EC fixed by subcutaneous tunneling with looping and taping. Method C—EC fixed by subcutaneous tunneling with suturing followed by looping and taping. Epidural catheter length at skin was determined at the time of insertion and 24 hourly up to the time of removal (3 ± 1 days). The absolute values were averaged and postoperative analgesia was evaluated using numeric rating scale twice daily.

RESULTS
All three groups did not differ with respect to treatment duration and postoperative pain scores. Tunneling with suturing (method C) and tunneling with looping (method B) reduced average extent and incidence of clinically relevant EC dislocation in both thoracic and lumbar epidurals (more than the conventional method A). Method C showed better results than method B.

CONCLUSION
Tunneling and suturing itself proved to be better than tunneling with looping. And both the techniques proved to be better than looping and taping (method A) alone where maximum dislocation was seen.

Subanesthetic Doses of Ketamine for Painful Dystonia

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BACKGROUND AND AIMS
The objective is to report that a case of complex regional pain syndrome (CRPS) with dystonia responded to the use of ketamine.

METHODS/CASE REPORT
A 22-year-old lady complained of drooping of right shoulder and pain from right hip to distal part of knee since 1.5 years. She also had painful abnormal posturing of right hand and wrist with pain at back of head as well as right side of neck since 7 months. On examination, thumb, ring finger, and little finger of right hand was held in flexed position. Attempt to extend these fingers resulted in increased pain. Thyroid function tests, MRI brain, vasculitis work up, nerve conduction study, electromyography, and molecular genetic testing revealed no abnormality. She was treated with ketamine 30 mg/hour, 5 hours/day, for 5 days. Ketamine burst therapy was tapered with the same dose given for 1 day after a week followed by 2 doses at 2 weekly intervals.
RESULTS
Ketamine infusion resulted in total relief of pain and much decrease in dystonia. Partial recurrence of dystonia in right arm and new onset dystonia of left arm occurred after 4 months. She is presently on L-Dopa 600 mg/day.

CONCLUSION
Subanesthetic doses of ketamine produced pain relief and increased mobility in a case of CRPS with dystonic posturing.

Stellate Ganglion Block for Inadvertent Intravascular Injection and for Peripheral Vascular Disease

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BACKGROUND AND AIMS
The objective is to report the use of stellate ganglion block in, (1) a patient who received inadvertent intravascular injection of diclofenac and (2) a patient who has peripheral vascular disease of upper limb.

METHODS/CASE REPORT
A 52-year-old lady doctor presented with pain on volar aspect of left forearm and pain as well as discoloration of thumb, index and middle fingers of left hand following inadvertent intra-arterial injection of diclofenac sodium at the left elbow. She was found to have bluish discoloration of three fingers and pain score of 5/10 in the left arm. We administered left stellate ganglion block under ultrasound guidance using 7 ml of 0.25% bupivacaine.

A 37-year-old smoker presented with severe right upper limb pain (1 year) and non-healing ulcers in right middle and index fingers (3 months). Computed tomography angiogram revealed narrowing of radial and ulnar artery in distal and mid-right forearm. We administered right stellate ganglion block with 6 ml of 0.25% bupivacaine and 2 ml (80 mg) of depomedrol under ultrasound guidance.

RESULTS
Stellate ganglion block resulted in immediate total relief of pain and disappearance of discoloration within 12 hours in the patient who received intra-arterial diclofenac injection and in marked reduction of pain (8/10 to 2/10 for last 3 months) in the patient who has peripheral vascular disease of upper limb.

CONCLUSION
Stellate ganglion block relieves pain caused by ischemia of upper limb. During ischemia, timely intervention is important, to prevent gangrene and amputation.

Pre-emptive Analgesic Effect of Epidural Xylazine alone and in different Synergistic Combinations with Buprenorphin and Tramadol

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BACKGROUND AND AIMS
Pain management in dogs and cats has undergone a dramatic evolution in the past decade. Current approaches focus on anticipation and prevention of pain. Today there is a better understanding of how pain develops and is perpetuated. It is now well established that animals and humans have similar neural pathways for the development, conduction, and modulation of pain.

The present study has been taken up on dogs to explore its possibility to evolve a standard systemic approach for epidural anesthesia by evaluating the sedative effect of xylazine in different combinations of synthetic analgesics viz buprenorphin and tramadol hydrochloride in various operative procedures of especially posterior part of the body in clinical cases and their individual efficacy to establish perfect sedation excellent relaxation, least cardiopulmonary depression and postoperative analgesia by analyzing the effect of these combinations on clinical, hematological, biochemical and anesthesiological studies.
METHODS
To evaluate the sedative and pre-emptive analgesic effect of xylazine alone or in different combinations was studied in total 27 dogs of different breeds (equally divided into three groups A, B, C). In group A, xylazine @ 0.75 mg/kg, in group B xylazine @ 0.75 mg/kg plus buprenorphin @ 0.004 mg/kg; in group C xylazine @ 0.75 mg/kg plus tramadol @ 2 mg/kg b.wt were administered epidurally through lumbosacral junction.

CONCLUSION
Though all the three combinations can found to be good to perform anesthesia and analgesia to perform surgeries of posterior half of the body, among three different combinations group C was found most effective and best pre-emptive analgesic combination.

Ultrasound-guided Suprascapular Nerve Pulse Radiofrequency Lesioning for Treatment of Frozen Shoulder
Sanjay Kumar

BACKGROUND
Frozen shoulder or adhesive capsulitis is troublesome disease of shoulder joint characterize by pain and decreased range of motion. It is managed by use of NSAIDS, intra-articular steroids, therapeutic exercises and more recently suprascapular nerve block. Suprascapular nerve block can be performed blindly, fluoroscopic guided and by ultrasound guidance. In the present study, we are describing use of ultrasound guidance for suprascapular nerve block in patients of adhesive capsulitis not responding to intra-articular steroids.

METHODS
In this study, we included 20 patients of adhesive capsulitis of shoulder joint not responding to intra-articular steroids. All the selected patients were given ultrasound guided suprascapular nerve pulse radiofrequency lesioning 3 times for 120 seconds each after confirming the location of suprascapular nerve with sensory and motor testing. Sensory and motor stimulation threshold of <0.5 mv was taken for confirming the location of suprascapular nerve. All patients were asked for follow-up at 1, 4 and 12 week. Visual analog scale (VAS) score was recorded at baseline and at 1, 4 and 12 week postintervention. All the data recorded were analyzed by SPSS version 22.0. Visual analog scale score scores for pain were compared with the baseline with paired t-test.

RESULTS
Mean VAS score for pain was 8.85 ± 0.87, 3.40 ± 1.09, 4.35 ± 0.87 and 5.05 ± 0.94 at baseline, 1, 4 and 12 week respectively. There is significant decline in VAS score at 1 week (p < 0.1), 4 week (p < 0.1) and 12 week (p < 0.1).

CONCLUSION
Hence in our study, we have found that ultrasound guided suprascapular pulse radiofrequency lesioning is viable treatment option for relieving pain in patients of frozen shoulder.

Chemical Neurolysis of Intercostal Nerves for Nonmalignant Pain: Should It be obsolete?

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AIM OF THE STUDY
To relieve intractable pain of empyema thoracis by intercostal block using 100% alcohol (chemical neurolysis).

MATERIALS AND METHODS
This study has been performed in the Department of Anesthesiology KGMU, Lucknow, from 1.5.2014 to 31.5.2015. Three cases aged 21, 25 and 26 years, from the department of general surgery, presented to the pain clinic with the complaints of severe right side anterolateral chest wall pain due to empyema chest after failed medical treatment. Chemical neurolysis which was performed after their written consent. The position, monitoring and technique for neurolysis was similar to the diagnostic procedure. After satisfactory dye spread 0.5 ml lignocaine 2% was given in the decided intercostal spaces, followed by 1 ml 100% alcohol after
30 seconds, and 0.5 ml 2% lignocaine flushed while removing the needle. The patients were kept in the postoperative recovery room for 4 hours and were then discharged.

RESULTS
Patients were followed up for 6 to 9 months and the visual analog scale score scores post procedure reduced from mean of 9 to mean of 2.96 in the consequent visits, without any untoward side effects. There was no mortality chemical neurolysis is done most commonly in malignant pain syndromes, due to worrisome side effects of dysesthesia, but they have also been tried in muscle spasticity, chronic pancreatitis pain, lumbar sympathectomy, median branch block, sacroiliac joint pain, etc. Hence, still not allowing the old to become obsolete.

CONCLUSION
To conclude malignancy, pain is the first indication for chemical neurolysis but despite the oppositions its use cannot be restricted to one, and yet, studies are to be done in non-malignant pain to compare the efficacy and side effects among different methods of neurolysis. Alcohol neurolysis requires strict vigilance, and takes a back seat in comparison to RF, but cannot be a forgotten or an outcast modality.

Clinical Trial for the Management Dysmenorrhea using Selected Spices

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BACKGROUND AND AIMS
Dysmenorrhea is the most common gynecologic complaint among adolescent and adult females. Some dysmenorrheic females do not respond to treatment with NSAIDs or oral contraceptives and exhibit contraindications to such medications. Therefore, alternative medication, gained importance in the management of dysmenorrhea.

The aim of the study was comparison the effects of ginger, dill seeds and cumin on menstrual pain and symptoms in females with primary dysmenorrhea.

MATERIALS AND METHODS
Comparative clinical trial was conducted on 31 dysmenorrheic subjects; they were randomly assigned to three groups. The dosage was 1, 3 and 3 gm/day for ginger, dill seeds, and cumin, respectively for the girls in respective group consumed the spice for 3 days during each cycle for three consecutive cycles.

RESULTS
Dill seed was effective in reducing pain, followed by ginger wherein cumin did not exhibit any effect. Although cumin intervention did not effectively reduce pain, it exhibited significant reduction in systemic responses, like cold sweats, backache, fatigue and cramps.

CONCLUSION
Among the three spices studied, dill seeds were more effective in reducing pain. It was obvious from our study that reducing symptoms is also important in the total management of dysmenorrhea.

A Comparative Study of Two different Doses of Dexmedetomidine as Adjunct to Lignocaine in Intravenous Regional Anesthesia for Upper Limb Surgeries

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BACKGROUND AND OBJECTIVES
Various studies have suggested that the addition of dexmedetomidine to local anesthetics can prolong the effect and quality of intravenous regional anesthesia but data for the efficacy between its doses are limited. The purpose of this study is to compare the effects of two different doses. Five µg/kg and 1 µg/kg of dexmedetomidine when added to lidocaine 0.5% in terms of onset of sensory and motor block, duration of postoperative analgesia and quality of block.
MATERIALS AND METHODS
Sixty patients with ASA physical status I-II of either gender and aged between (17–70 years) scheduled for elective surgical procedure involving upper extremities were divided into two equal groups in a randomized, double-blind fashion. Intravenous regional anesthesia (IVRA) was performed with 40 ml of 0.5% lidocaine with dexmedetomidine 0.5 µg/kg and 1 µg/kg to group A and group B respectively. The onset time of sensory and motor block, duration of block, postoperative visual analog scale (VAS) and Ramsay sedation scores (RSS), were noted.

RESULTS
Sensory and motor block onset times were shorter in group B than in group A (p < 0.001). Significantly, decreased postoperative median VAS scores in groups B as compare group A were found (p < 0.05). The duration of analgesia was longer in group B than group A (p < 0.001). Quality of blockade was excellent in 83.3% cases in group A and 90% in group B.

CONCLUSION
The addition of dexmedetomidine of 1 µg/kg to lignocaine for IVRA showed significantly better improvement in the quality of anesthesia and postoperative analgesia in comparison to 5 µg/kg dose without causing any significant side effect.

Cancer Pain: The Pocket Hurts Too!!

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BACKGROUND
All across the cancer trajectory, pain is a constant companion. In this era of economic globalization, when all aspects of life are treated from an economic perspective, healthcare cost analyses are bound to catch up. Healthcare costs include both direct as well as indirect costs, such as those associated with morbidity in terms of days lost from work for the patient or the caregiver.

METHODS
To perform an analysis of the ‘Financial toxicity’ related to cancer pain management using a variant of the comprehensive score for financial toxicity (COST) developed by the University of Chicago. Comprehensive score for financial toxicity is a 11-point questionnaire which gives a score denoting the risk of ‘Financial toxicity’ which can further be used to derive the quality of life using the functional assessment of cancer therapy-general (FACT-G) questionnaire.

RESULTS
The study is under progress and results are yet to be defined.

CONCLUSION
We will gauge the level of financial burden associated with the treatment of cancer pain with the available treatment modalities and relate the scores to the quality of life produced.

Precise Intelligence Guided Arm Directed Diagnostic Bilateral Pudental Nerve Block: An Integration of Novelty Cum Technique Accuracy

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BACKGROUND AND AIMS
Chronic neuropathic pain in perennial region with no evident etiology on clinical workup earlier categorized as ‘Psychomotor Vulvovaginitis’, later being described as ‘Pudental neuralgia’, required Pudental nerve block administration for diagnostic cum therapeutic confirmation. Here, we present a novel technique of bilateral pudental block administration in which the technical
accuracy made the diagnostic cum therapeutic case scenario more objective evidence-based rather than being-based on subject’s response to the done intervention.

METHODS
Bilateral pudental nerve block was planned in 41 years old lady as a diagnostic cum therapeutic intervention, complaining of pain in vulvar region for past 18 years, referred to our multispeciality pain clinic with diagnosis of chronic refractory vulvodynia. Patient underwent a prone positioned posterior approach (transgluteal) bilateral pudental nerve block using precise intelligence guided arm (PIGA) attached with 256 slice computerd tomography scanner. The placement as well as the accurate installation of drugs (depomedrol 80 mg and bupivacaine 15 mg) and spread of injectate at the desired site were documented on both sides.

RESULTS
Correct tract of needle as well as the site of placement documented bilaterally, precision and accuracy of block was evident by the spread of drugs in the desired site. The objective evidence of bilateral accurate block is of paramount importance, particularly from the diagnostic aspect of such complex pain syndromes.

CONCLUSION
Precise intelligence guided arm technique is not a subjective but an objective evidence of precise instillation of drugs aiming for diagnostic cum therapeutic role in clinically difficult cum challenging case procedure scenarios.

Comparison of Postoperative Pain Relief in Patients Receiving Intrathecal 0.5% Bupivacaine vs 0.5% Bupivacaine with 30 µg Buprenorphine in Patients Undergoing Lower Segment Cesarean Section

Swati Agarwal

INTRODUCTION
The study aims to compare efficacy of hyperbaric bupivacaine alone and hyperbaric bupivacaine with 30 µg buprenorphine in patients undergoing elective lower segment cesarean section (LSCS) in terms of quality of postoperative analgesia and maternal and neonatal side effects.

MATERIALS AND METHODS
The study was carried out in the Department of Anesthesiology, AVBRH, Sawangi, during the period of January 2014 to May 2014. Prospective randomized double blind comparative type study conducted on 90 patients of ASA class 1 and 2, age group 19 to 35 year, height 158 to 165 cm female undergoing elective LSCS. Patients were randomized to receive subarachnoid block in L3 to L4 space with a 25G spinal needle in left lateral position.

• Group A (n = 30) intrathecal hyperbaric bupivacaine 1.8 ml (0.5%). Total volume—1.80 ml.
• Group B (n = 30) intrathecal hyperbaric bupivacaine 1.7 ml (0.5%) with buprenorphine (30 µg) 0.1 ml. Total volume—1.8 ml.

DATA COLLECTION
Visual analog scale (VAS) was assessed every 30 minutes postoperatively to rate pain till the patient demanded rescue analgesia.

METHOD OF ANALYSIS
Analysis of variance test was used for comparison of VAS in the three groups.

RESULTS
Time for rescue analgesia

• Group A: –164 ± 38.38 minutes
• Group B: –318 ± 84.70 minutes

CONCLUSION
Bupivacaine with low dose buprenorphine (30 µg) produces better postoperative analgesia (up to 6 hours) as compared to bupivacaine alone (3 hours).
**A Survey on Knowledge and Attitude toward Chronic Pain among Anesthesiologists in Mangalore City, South India**

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**BACKGROUND AND AIMS**

Management of pain has always been a challenge for anesthesiologists. Over past few decades, working perimeter of anesthesiologists has greatly expanded from operating rooms to intensive care units and pain management clinics. Hence, we take up this study to evaluate the knowledge and attitude with a questionnaire regarding chronic pain management among anesthesiologists in Mangalore city.

**METHODS**

Anesthesiologists from Mangalore, who volunteer to take part in the study, were given a set of questionnaire. Each set of questionnaire contained 15 multiple choice questions (5 questions to evaluate the attitude and 10 questions to evaluate the knowledge) having one correct answer. And the volunteer was asked to mark the correct answer in person, later statistically analyzed.

**RESULTS**

A total of 86 anesthesiologists from Mangalore, were analyzed for attitude and knowledge for chronic pain management. Of the five questions designed to assess the attitude, 55.8% questions were correctly answered, with mean of 2.79 and SD of 1.161. Among 10 questions designed to assess the knowledge, 48% were correctly answered with mean of 4.8 and SD of 1.827.

**CONCLUSION**

Though anesthesiologists of Mangalore are actively involved in acute pain management, their knowledge and attitudes toward the chronic pain is not satisfactory.

**Steroid vs Platelet Rich Plasma in Ultrasound Guided Sacroiliac Joint Injection for Chronic Low Back Pain**

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**BACKGROUND**

Despite widespread use of steroids to treat sacroiliac joint (SIJ) pain, their duration of pain reduction is short. Platelet rich plasma (PRP) can potentially enhance tissue healing and regeneration by delivering various growth factors and cytokines and may have a longer lasting effect on pain.

**OBJECTIVES**

To assess efficacy and safety of PRP compared with methylprednisolone in ultrasound (USG) guided SIJ injection for low back pain.

**METHODS**

Forty patients with chronic low back pain diagnosed with SIJ pathology were randomly allocated into two groups. Group (S) received 1.5 ml methylprednisolone (40 mg/ml) and 1.5 ml 2% lidocaine with 0.5 ml of saline while group (P) received 3 ml of leukocyte free PRP with 0.5 ml of CaCl₂ into USG guided SIJ injection. Visual analog scale (VAS), modified oswestry disability questionnaire (MODQ), short form (SF-12) health survey scoring and complications were evaluated at 2, 4, 6 weeks and 3 months.

**RESULTS**

Intensity of pain was significantly lower in group (P) at 6 weeks [Median (IQR) = 1 (1–1) vs 3.5 (2–5); p = 0.0004] and 3 months [Median (IQR) = 1 (1–3) vs 5 (3–5); p = 0.0002] as compared to group (S). The efficacy of steroid injection was reduced to 25% at 3 month while it was 90% in group (P). Strong association was observed in patients receiving PRP and reduction of VAS ≥
50% from baseline when other factors were controlled. The odds ratio of achieving reduction in VAS ≥ 50% in PRP group was significantly higher than steroid group at 6 weeks (adjusted OR = 10.91, 95% CI: 1.56–76.38, p = 0.016) and 3 months (adjusted OR = 37.277, 95% CI: 4.652–298.694, p = 0.001). The MODQ and SF-12 score were improved initially up to 4 weeks but deteriorated further at 3 months in group (S) while both the scores improved gradually up to 3 months in group (P). Both the scores were significantly better in group (P) at 6 weeks and 3 months as compared to group (S).

CONCLUSION

The intra-articular PRP injection is an effective treatment modality in low back pain involving SIJ. It provides sustained pain relief with improvement in disability and general health.

Spinal Cord Stimulation for Pain Relief in Complex Regional Pain Syndrome: A Case Report

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INTRODUCTION

Spinal cord stimulation (SCS) is an essential part of the treatment algorithm for patients suffering from neuropathic pain. Here is a case report of a patient suffering from neuropathic pain diagnosed as complex regional pain syndrome who got almost complete pain relief with spinal cord stimulation.

CASE REPORT

A 52-year-old male with history of sciatic nerve injury 20 years back, had foot drop and loss of sensation in the foot. Patient initially had severe pain in the leg and foot which was treated conservatively and response was good. For past 3 years, patient had very severe pain and pain was neuropathic in nature and had score of 21/35 on Freynhagen pain detecting tool. On examination, there was complete loss of sensation over foot and ankle. Ankle joint was fused due to surgery. No vasomotor or pseudomotor changes were noted. Patient was on multiple antineuropathic medications without any pain relief. Patient was severely depressed and was addicted to benzodiazepines to sleep in the night. Lumbar sympathetic block was tried but no pain relief was seen (sympathetically independent pain). So after proper counseling, we opted for spinal cord stimulation which gave him almost total pain relief.

CONCLUSION

Once thought to be the last resort in the treatment, now it has become evident that SCS is an effective option that should be tried much earlier in the treatment.

Effect of Injection Dexmedetomidine vs Injection Clonidine as an Adjuvant to Ropivacaine on Ultrasound Guided Supraclavicular Brachial Plexus Block Characteristics

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BACKGROUND

Supraclavicular brachial plexus block (SBPB) is one of the most commonly performed block for upper limb surgeries. Addition of adjuvants not only lowers the dosage but also prolongs the duration of perioperative analgesia. Alpha-2 adrenergic agonists are a relatively newer class of drugs with sedation, anxiolysis, analgesia and sympatholysis as the beneficial effects.

AIMS

Comparison of dexmedetomidine and clonidine as an adjuvant to SBPB with respect to onset and duration of sensory and motor blockade and duration of analgesia.
METHODS
We prospectively randomized 80 patients undergoing elective orthopedic upper limb surgeries under planned USG guided SBPB into two groups to receive ropivacaine 0.5% (30 ml) with either clonidine 1 µg/kg (group C) or dexmedetomidine 1 µg/kg (group D). Both the groups were compared with respect to demographic characteristics, duration of sensory blockade, motor blockade and analgesia.

RESULTS
Duration of analgesia (454 ± 35.02 vs 308 ± 22.06 minutes; p = 0.001), sensory blockade (404 ± 19.05 vs 285 ± 35.05 minutes; p = 0.001) and motor blockade (296 ± 14.08 vs 208 ± 22.98 minutes; p = 0.001) were better in group D. It was statistically significant compared with group C with respect to all parameters. Both the groups were comparable with respect to side effects.

CONCLUSION
Dexmedetomidine is more effective adjuvant to ropivacaine compared to clonidine for prolonging duration of sensory and motor blockade and duration of analgesia without any significant increase in side effects.