

## Quality Assurance in Interventional Pain Management

Interventional pain management is a relatively new field with a history of less than 2 decades. Even though it has gained a rapid development over the last decade and multiple evidence-based guidelines for interventional pain management procedures (IPMPs) have been published<sup>1-3</sup>, the issue of quality assurance in interventional pain management has not been well addressed. Despite growing interest by physicians around the world in this new discipline, quality assurance for interventional pain management has yet to be established.

The number of IPMPs is rapidly increasing at a very fast pace in almost all the countries as it is in Pakistan. According to the Medicare database, from 1998 to 2005, there was a 179% increase of IPMPs in the USA (1,406,417 in 1998 and 3,925,467 in 2005, respectively). In our country pain practice has flourished both in public as well as private sector. Many new pain clinics are being opened in all the major cities and there is a run for the learning of practical techniques of IPMPs. The majority of IPMPs are still being performed in private practices.

IPMPs are not completely safe and have been associated with many side-effects and draw backs e.g. bleeding, post-epidural headache, sepsis and transient nerve paresis etc. Serious complications, such as quadraparesis and cardiovascular arrest have also been reported as the results of IPMPs<sup>4,5</sup>. There are a large number of professional organizations representing pain physicians including International Association for Study of Pain (IASP), which aim at educating the physicians as well as increasing public awareness. IASP has representative bodies in more than forty countries, including Pakistan, where Society for Treatment & Study of Pain acts as its local chapter. Still patient safety standards during the IPMPs remain to be established.

One method to improve health care is the concept of "Pay for performance". It has been well addressed over the last decade and has been promoted by Medicare and several large health insurance carriers<sup>7,8</sup>. The goal of the "pay for

performance" program is to improve the quality of care, recognize practitioners who provide higher-quality care, and help providers align their practices with national standards<sup>9</sup>. The main component of "pay for performance" remains quality of care. This method is in practice in Asian countries in a very disorganized method, relying solely on patients personal experiences or upon hearsay, as there is no institution to grade healthcare providers and facilities according to quality of care in comparison to the payment sought. This is equally true in case of the practice of interventional pain management. It is the need of the day that such a system is evolved for the benefit of the patients. The system must analyse and assess the facility thoroughly before assigning a grade. In case of interventional pain management practice following recommendations can be made;

- 1) Each patient is seen by an attending physician with a board certification in pain medicine.
- 2) A complete history, detailed physical examination, and reviewing of MRI/CT reports and films of the spine are all performed by a board certified physician before a diagnosis is formulated.
- 3) AN IPMP is prescribed according to the patient's diagnosis.
- 4) Each procedure is explained to the satisfaction of the patient.
- 5) A pre-procedure instruction is handed out to each patient.
- 6) On the day of the IPMPs, vital signs, pain severity, medications, possible contraindications, diagnosis, name, and site of the procedure are re-checked prior to taking the patient into the procedure room.
- 7) Procedures are rescheduled or canceled if any of the conditions listed in (10) are present.
- 8) An intravenous access is obtained for all cervical procedure and sympathetic blocks.
- 9) A "time out" is called immediately by the attending physician prior to IPMPs to confirm

the patient's name, diagnosis, type, and site of the procedure.

- 10) During the procedure, blood pressure, heart rate, pulse oximetry, and mental status are continuously monitored. The physician performing IPMPs constantly talks with the patients to monitor the cognitive status of the patients. Patients are instructed to report any abnormal feelings, such as increased local pain, dizziness, chest pain, metallic taste in the tongue or feeling of fainting to the physician immediately.
- 11) Fluoroscopy is used to ensure the correct final locations of the needle tips for IPMPs.
- 12) Upon completion of the IPMPs, patients are sent to a recovery room and observed for at least 15 minutes prior to discharge with an adult. Patients are not allowed to drive after the IPMPs.

Office-based IPMPs included lumbar, thoracic, and cervical epidural steroid injections (ESI); lumbar and cervical facet joint blocks; sacroiliac joint injections; selective nerve root blocks; lumbar and cervical sympathetic nerve blocks and large joint injections in a descending order according to their frequency. Other spine procedures such as discograms, spinal cord stimulator trials and implantations, intrathecal pump implantations, disc decompressions, and vertebroplasty are usually performed in operating rooms, but do not necessarily need hospital admissions. These specialized procedures are usually reserved for spinal or neurosurgeons, but pain physicians are quick to capitalize upon these, and more and more pain physicians are now indulged in performing these procedures.

Quality assurance for interventional pain management must be achieved in pain practice, with the purpose of enhancing the efficacy of IPMPs, increasing the patient satisfaction, and decreasing the risks associated with IPMPs. First and foremost, all pain clinics must be adequately staffed and equipped so that to be able to manage common side effects and complications of the IPMPs, including basic and advanced resuscitative measures. Necessary drugs must be at hand. Basic essential monitoring advocated for all anaesthesia procedures is also mandatory for pain procedures. Safe practice will rule out the need of 'a back door' in the pain clinic as advised by

experienced pain physicians to the new comers. 'Safety first' must be the slogan of every pain physician as it is of every anaesthetist. I will like to reproduce the advice given by Dr S. Lipton in his letter to Brig M. Salim, dated 2 June 1992; 'The only three things I can suggest are:-

- 1) Continue to treat the patients who come your way as effectively as you can.
- 2) Do not kill (or allow to die) any patient however ill, that you treat in your initial major 20 treatments.
- 3) The majority of severe pains will probably be cancer pain and fortunately these offer the best chances of pain relief but remember 2) above.'

Special attention must be paid and swift reactions are needed to treat vasovagal response during IPMPs. Immediate pain relief after IPMPs has been proposed as the first indicator for the quality assurance for IPMPs<sup>6</sup>. The degree of immediate pain relief after IPMPs reflects the accuracy of pretreatment diagnosis, appropriate utilization of procedure indications, as well as the correctness of needle placement. High rate of immediate pain relief can be achieved in pain practice as long as practitioners in practice take appropriate measures to ensure the quality of their care, even though physicians in private practices usually have to see a higher volume of patients and are required to perform more IPMPs in a given time unit. It is basic essential that treating physicians enhance their skills to decrease patient anxiety levels and procedure-induced pain in order to increase the efficacy of their treatment.

Recent advances in radio-imaging techniques have revolutionized pain practice by enabling the pain physician to target the specific nerves or nerve roots with absolute accuracy. Fluoroscopy and ultrasound guidance are in use in most of the advanced pain clinics; pain physicians must acquaint themselves with these techniques as much as possible; learning is a very slow process with these. Most fluoroscopy guided IPMPs deliver local anesthetics, frequently with corticosteroid, to an assumed pain source, such as a nerve root or a joint. Immediate pain relief could be expected if both clinical diagnosis and needle placement are accurate, regardless of the source of pain. It has been found that the degrees of immediate pain relief are comparable for various types of IPMPs, such as CESI, TESI, LESI, lumbar facet joint

block, SI joint injection, and lumbar selective nerve root blocks. This result probably reflects the equal accuracy of the diagnosis and needle placement for various IPMPs by the same treating physician.

Sterility of any equipment and disposables must be ensured. All needles including acupuncture needles are now available in presterilised sealed packs, opening these in front of the patient is advantageous in winning the confidence of the patient, as most patients are now well-aware and concerned about the risk of transmitting hepatitis and HIV etc. by contaminated needles.

Patient satisfaction with the results of IPMPs can be affected by the limitations of current technology. Not every clinic can afford to have fluoroscopy, ultrasound, nerve ablation equipment or radiofrequency. However, patient satisfaction with the staff of the clinic is related more to human factors. A gentle, humane behavior to the patients seeking relief from their pain remains the main stay of any practice. The patient, who is willing to spend his time and money at your clinic, deserves the best return. Kind words will augment any measures you take to relieve him from his pain. This indicates that despite the limitation of current technology, patients can still be highly satisfied with the staff in the pain clinic even if they may not be highly satisfied with the results of IPMPs. Many studies have confirmed Hirsh et al's previous findings<sup>10</sup>. Satisfaction with treatment of chronic pain is not merely a matter of pain relief. The interpersonal aspects of the health care provider-patient relationship appear critical to the overall satisfaction with the quality of health care.

High quality interventional pain management programs with high efficacy, high patient satisfaction, and low complication rates can be achieved through appropriate staff training, proper monitoring of patients during IPMPs; and adequate handling of patients before, during and after the procedure will make the difference between a successful practice and a failure.

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