NEWSLETTER

PAKISTAN SOCIETY OF ANAESTHESIOLOGISTS
KARACHI - CHAPTER

2014-2015

Volume 19:
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Pakistan Society of Anaesthesiologists Karachi - 2014-2015

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EDITOR'S NOTE

Pain is the fifth vital sign and adequate management of acute and chronic pain falls in the domain of anaesthesiologists. The Cancer Pain Relief Programme of the WHO advocates a three-step 'analgesic ladder' in an attempt to improve the worldwide management of pain due to cancer. Although the WHO analgesic ladder was developed for use in cancer pain, a stepwise approach using a limited number of drugs is probably equally applicable to the management of chronic pain due to other causes and has the potential to simplify prescribing.

Dr Madiha Hashmi
Editor, PSA Newsletter

HOW WELL IS CANCER PAIN TREATED IN DEVELOPING COUNTRIES ?

Pain is among the most common and feared symptoms in “Cancer” patients. The World Health Organization (WHO) estimates that 5.5 million people worldwide receive no or minimal treatment for their cancer pain. The reality is that “cancer pain is under treated” in the developing countries much more than our assumption.

There is a long list of major barriers in providing pain relief in cancer patients in developing countries e.g. physician and patient's attitude towards the use of opioids, lack of education & recognition of Pain Specialty, lack of emphasis on pain in government health policies etc. but severe limitation of opioid availability is the major factor responsible for under treatment of cancer pain.

The WHO has published guidelines called “WHO analgesia ladder” on the treatment of cancer pain for adults (1998, 1990, and 1996) and for children (1998, 2012). We should remember that Cancer pain is very treatable and 70-90% of all cancer can be controlled on oral medication if WHO analgesia ladder is followed. Morphine is the drug of choice for the management of severe cancer pain and is on the WHO essential drug list .However when pain is not controlled on oral medications or patient is not tolerating the side effects of medications then some interventional techniques can be performed.

We conducted one survey about knowledge and implication of WHO cancer pain analgesic ladder by physicians and surgeons at AKU. We found that 65.90% of our practicing physicians are not aware about WHO analgesic ladder, 34.09% knew and only 16.6% of physicians out of this are following WHO ladder in their clinical practice.

In summary, we need to have a much better understanding of the epidemiology of cancer pain and importance of WHO ladder. I believe proactive government policy for the availability of narcotics in this part of the world is an essential step to relieve cancer pain in majority of patients.

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UPCOMING CONFERENCES / MEETINGS / SYMPOSIA

9th Annual Anaesthesia Research Retreat 2015
31st May 2015
Aga Khan University, Karachi

ASA Anesthesiology 2015
San Diego, California, US
October 24-28, 2015

16th World Congress of Anaesthesiologists
Aug 28 Sept 2, 2015
Hong Kong, China

WFSICCM 2015
Aug 29 Sept 3, 2015
Seoul

14th Annual Symposium on Regional Anesthesia, Pain and Perioperative Medicine
September 19-20, 2015
New York, USA

9th congress of the European Pain Federation
Sept 2 Oct 5 2015
Vienna, Austria

ESRA 2015
Sept 2-5, 2015
Slovenia

ISSPS 2015
Oct 30- Nov 1, 2015
Hong Kong, China

NEED FOR ESTABLISHING FORMAL ACUTE PAIN SERVICES

Inadequately relieved pain after major surgery has the potential to lead to an increased morbidity and mortality in the postoperative period. Unrelieved pain after upper abdominal incisions leads to shallow breathing, atelectasis, and retention of secretions with possibility of hypoxaemia and pneumonia. Severe unrelieved pain causes an increase in sympathetic outflow leading to tachycardia, thus increasing myocardial oxygen consumption. This increases the chances of myocardial ischaemia and even infarction in the vulnerable patient. Stress response to ineffective pain relief leads to multiple neuroendocrine responses with increased catabolism and glucose intolerance.

Thus, effective postoperative pain relief has a great potential for improving postoperative outcome and increasing patient satisfaction. It is therefore essential that sincere efforts be made to improve the quality of postoperative pain management. The importance of effective postoperative pain management was realized and the need for establishment of formal services for postoperative pain management was identified over 50 years ago. The first formal acute pain services were established in 1985 in Germany and United States of America. Subsequently acute pain services (APS) were initiated in most major hospitals of USA and Europe within the next few years. Currently APS is a prerequisite for accreditation for training by the Royal College UK and Australian and New Zealand College of Anaesthetists. The developing countries, however, have been slow to follow in their footsteps and APSs are slowly being formulated in some of the major tertiary care hospitals of the developing world.

Research has shown (see references) that postoperative patients managed in hospitals with formal APS have lower pain scores and are more satisfied with their pain relief compared to those treated in hospitals without APS. Fewer patients suffered with postoperative nausea and vomiting and excessive sedation in hospitals with established APS. Similarly, a lower incidence of postoperative pneumonia was found in patients followed up by APS. It is therefore evident that postoperative pain management supervised closely by dedicated members of APS leads to improved pain relief with a potential for improving overall patient outcome.

Unavailability of potent opioids and expensive drug delivery systems is an undeniable fact in developing countries like Pakistan, but must not be an excuse for failure to work towards the establishment of APS in major tertiary care centers of the country. Optimal and effective use of the available resources through multimodal analgesia can go a long way towards improving acute pain management even in resource limited countries like ours. It is high time that an organized approach is made towards the establishment of formal acute pain services in all major tertiary care centers of the country.

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ROLE OF PLATELET RICH PLASMA IN TISSUE REGENERATION A MYTH OR REALITY?

Tissue injury leads to platelet aggregation. These activated platelets release numerous growth factors that are directly responsible for tissue regeneration. By introducing platelets in large quantities to a site of injury, the excess growth factors might stimulate healing of long term injuries that may contribute to chronic pain. Platelet rich Plasma (PRP) is thought to enhance the recruitment, proliferation, differentiation of cells involved in tissue regeneration to promote healing

PRP concentrates is made from the patient's own blood. High speed centrifuge machine is used with a specific temperature. After centrifuging the blood separates into three layers. The top layer is serum, the middle layer has WBCs and platelets and the bottom layer has RBCs.

Technique: After all aseptic precaution local anaesthetic is injected at the site of injection superficially. Needle is introduced at the intended injection site. Use of ultra sound can increase the chances of success. After the procedure patient may go back to normal daily work. There might be soreness or pain at the site of injection which is because of inflammatory response at the injured This may last up to 48 hours and can be relieved by paracetamol. Use of NSAIDs is not recommended because it will alter platelet function.

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Contraindications: The procedure is contraindicated if there is infection at the site of injection, broken skin, blood clotting disorders, concurrent anti-coagulant therapy, multiple prior injections, pregnancy and unstable/inaccessible joints.

Complications: Some complications that can occur are infection at the site of injection, which may or may not accompany fever, bleeding at the site of injection especially with anti-coagulant therapy or bleeding disorder, tendon rupture due to improper needle placement.

Conclusion: PRP therapy improves quality of life, decrease pain, improved function and healing of damaged tissue. PRP therapy and administration of growth factor may provide pain relief where other conventional therapies failed.

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BIO-PSYCHO-SOCIAL MODEL OF PAIN

IASP has defined pain as an unpleasant sensory or emotional experience associated with actual or potential tissue damage or described in terms of such damage[-1]. This definition is quite compact and its composition carefully explains the complexity of pain experienced by an individual. After Descartes's description (16th Century) of a connection linking the peripheral tissue with brain, much work has been done to explore the pain physiology and pain pathways[-2]. The biological model consisting of Bone, Muscle and Nerve have been very popular during the last two centuries for managing pain. Unfortunately pain cannot be described as a biological entity e.g. diabetes or asthma, its not a surprise to see failure of biomedical means (pharmacological, Interventional for e.g.) to satisfactorily manage all pain patients[-3]. The concept of pain receptors (nociception) conveying pain sensations via sensory fibres to spinal cord and then via sensory tracts to cerebral cortex works well for the acute pain states (e.g. surgery, trauma) where tissue injury can be co-related with pain. Pain subsided with healing and recovery. Pain persisting beyond the anticipated duration after healing is termed as chronic pain. Biological model does not explain chronic pain as no obvious tissue injury or other pathology is found[-4]. In past, patients having chronic pain and who were poorly responding to the analgesics and or interventions (e.g. nerve or plexus blocks) were thought to have psychological pain and were referred to psychologists[-5].

Great efforts have been made by psychologists for better understanding of chronic pain and its management. Gate-control theory in 1965 was an attempt to provide some explanation of factors influencing the perception of pain. Its update in 1978 by Malzek and the proposal of Neuromatrix theory is a paradigm change in concept of pain and explains the complexity of pain experience by the patient[-2]. Bio-Psycho-Social model not only provides a better understanding of chronic pain problem but also suggests the best ways to manage it. It considers pain as a subjective experience influenced by cultural learning, meaning of the situation, attention and other psychological variables[-6]. Pain does not occur only by stimulation of receptors. Injury or disease produces neural signals, which enter an active central nervous system or neuromatrix, which is a substrate of information of past experience, culture and a host of other environmental and personal factors[-2,3,7]. The brain processes actively participate in the selection, abstraction and synthesis of information coming from the total sensory input and create a pain experience as an output[-2]. Pain is not simply the end product of linear sensory transmission. It's a dynamic process that involves continuous interactions between complex ascending and descending system, inter-translation of biological, psychological and social factors[-2,6].

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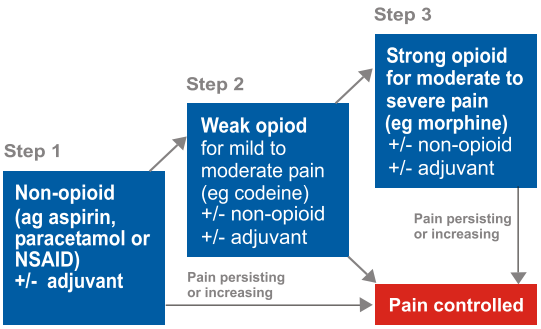
WHO ANALGESIC LADDER FOR CANCER PAIN

The WHO pain ladder is a framework for providing symptomatic pain relief. The three-step approach is inexpensive and 80-90% effective.	
By mouth	The oral route is preferred for all steps of the pain ladder
By the clock	Cancer pain is continuous - analgesics should be given at regular intervals (every three to six hours), not on demand
Adjuvants	To help calm fears and anxiety, adjuvant analgesics may be added at any step of the ladder



- The ladder has no 'top rung' as there is no maximum dose for strong opioids
- If pain is still a problem with high doses of morphine (eg greater than 300mg every 24 hours), or if there are severe side-effects, reconsider the cause of pain (eg bone pain may be better helped by NSAIDs) and/or seek specialist advice

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