

P9.03

Post-operative pain management in amputation – the influence of timing analgesia

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Background: Lower limb Amputation surgery is associated with pain which can occur both pre- and post-operatively. The latter can be either acute immediate stump pain or chronic phantom limb pain. Preoperative pain increases the risk of chronic phantom limb pain. Around ninety lower limb major amputations are performed each year at Mater dei Hospital. The aim of this prospective observational study was to follow up patients who received opioids as analgesia before (Group 1) or after amputation surgery (Group 2) both in the acute and chronic period. The effect of these interventions on the mean length of stay compared to patients receiving opioids analgesia after the amputation alone was also assessed.

Method: Patients undergoing elective major lower limb amputation at Mater Dei teaching Hospital over a six month period (June 2011 to December 2011) were selected. Thirty patients were eligible for further analysis. Twelve patients were allocated to Group 1: 22.2% were on pethidine, 66.6% on morphine and 11.2 % received codeine. Group 2, which did not receive opioids pre-operative, consisted of eighteen patients. Post-operative pain was assessed using the Visual Analogue Scale on day 1, 3 and 7, month 3 and 6 post-operative. Both stump pain and phantom limb pain was assessed. Analysis of variance statistical analysis was used to compare the results from two groups

Results: No statistically significant difference was found between the outcomes of the two groups with regards to both stump pain and phantom limb pain in the acute and chronic period ($p > 0.05$). In addition no statistically significant difference was noted in post-operative morphine consumption and the number of hospital admissions between the two groups.

Conclusion: The results obtained indicate that the use of opioids pre-emptively does not result in effective analgesia for postoperative amputation pain. No reduction in post-operative pain scores or morphine consumption after the amputation was noted

P9.04

Improving pain management in the Emergency Department

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Objective: To improve Pain Management in the Emergency Department (ED) based on the latest Evidence Based Medicine and by implementing new sustainable strategies. This study was carried out at Armadale District Hospital, a teaching Hospital in Western Australia, as part of the ED Pain Initiative co-ordinated by the National Health And Medical Research Council's (NHMRC) National Institute of Clinical Studies (NICS), Australia.

Method: A local continuous strategy with an aim of improving ED Pain Management was developed and implemented during the study period. To assess the efficacy of the implemented strategies, a random retrospective medical record audit of 60 patient records was conducted every 3 months throughout the study period of 2 years. ED staff was notified of the results obtained after each audit. **Results:** At the end of the 2-year study period there was an improvement in the number of patients who had their pain scores documented within 30 minutes of presentation to the ED (45% to 84%) and the time to analgesia (mean time to analgesia decreased from 65 minutes to 42 minutes).

Conclusion: Implementing various appropriate local strategies – the practice of Evidence Based pain management, increasing the awareness of the issues surrounding Pain Management in the ED via continuous education efforts and revising the analgesic Drug Formulary in the ED, helped to achieve a change in culture that improved Pain Management at Armadale District Hospital.

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Analysis of the cost-consumption of anaesthetic drugs and consumables in Mater Dei Hospital

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Introduction: Anaesthetists can avail of the use of a number of expensive drugs, but rarely do we really think about the financial implications. However, drug wastage can and should be reduced. AIM: We sought to investigate the expenditure for drugs and disposable equipment routinely used for anaesthetic purposes in Main Operating Theatre and Central Delivery Suite. We hope that this will make the anaesthetist more aware of the costs involved in some choices, and hopefully reduce wastage.

Method: A selected number of drugs and disposable equipment were investigated. Reusable material, like laryngeal mask airways, are notoriously difficult to price, so were not included in this exercise. The respective costs and the amounts ordered from Pharmacy during the January - June 2012 period were obtained, so that the costs of the individual items could be obtained. As a reference, we sought to get the cost consumption of a ubiquitous cheap surgical equipment, and for this we chose Prolene 3/0.

Results: The costs of drugs was nearly four times that of the consumables we had checked. By far, the most expensive item on the list was sevoflurane, at an expense of 49.1% of the drug costs, and accounted for two-thirds of the cost of all hypnotic agents. For comparison, an equipotent amount of sevoflurane and isoflurane were ordered, but the latter was responsible for only 4.1% of the drug costs, and for 5.5% of the cost of hypnotic agents. Total cost of fluids accounted for 23.7% of the drug costs. Surprisingly, intravenous paracetamol costs were twice as high as that of isoflurane. Some preparations of the same drug were markedly more expensive than others. With regards to consumables, the major expense was due to endotracheal tubes (31%) - mainly due to reinforced tubes, which accounted for 11% of the total number of tubes, but 54% of the cost. Following that, the other major expenses were peripheral cannulas (24.4%), central venous catheters (19.9%) and epidural sets (13.1%). The cost of Prolene 3/0 ranked 17th out of 130 items, slightly less than isoflurane, and even more than the use of remifentanyl, well known to be particularly expensive.

Conclusions: Awareness of the costs involved might lead to proper utilisation, to a significant cost reduction. However, this is limited to reducing the variation of different preparations, and to a reduction of use of particularly expensive drugs. Furthermore, the anaesthetic costs compare favourably to the surgical costs.