Peri-surgical pain experiences are less numerous than expected

Pain experienced during ophthalmic surgery is less frequent and generally less severe than expected, a new study suggests.

Finnish researchers compared the pain experienced by patients receiving different forms of topical anaesthesia for various types of ophthalmic day care surgery. They found that more than 60 per cent of patients experience pain of less than score 3 on the Numerical Rating Scale (NRS) for pain.

"The patient's pain during and after ophthalmic surgery is a subject of great concern to OR nurses. While scores were low for the majority of patients, small numbers did experience pain of NRS score 5-7, which they described as burning and/or aching pain during surgery. Vitreo-retinal surgical cases using peribulbar block anaesthesia had the highest experience of pain in our data," according to Annamarija Ketola, an anaesthetic nurse at the Helsinki University Eye Hospital.

Mrs Ketola was part of a two-part investigation. In contrast to a pain trial performed at her hospital in 2001 that determined that pain was always a personal and subjective experience, the new investigation now employed an 11 point numeric rating scale for pain (NRS) in which a score of 0 is equivalent to no pain at all, score 1 is the mildest pain, and 10 is the severest pain imaginable.

Ward nurses informed patients of the NRS scale before the start of surgery. They instructed patients to raise their left hand during surgery if they felt pain, instead of verbalising their complaints. The anaesthetic nurse was present throughout the entire surgery and administered pain medication if the patient's complaints of pain exceeded NRS score 3.

The nurses made their entries on anaesthesia forms and included an assessment of the patients' pain experiences according to NRS and a verbal description of the discomfort experienced. Only forms that included NRS entries were utilised in the study. Data from a study conducted in September 2003 encompassed 347 forms with NRS entries out of 502 anaesthesia forms (N) in all. A more recent study in April 2006 amassed 331 forms that included NRS data out of 435 total anaesthesia forms.

Data was collected from patients under local anaesthesia, including peri-bulbar block, gel, and topical drops. Overall, most of the results were good for anaesthetics such as fentanyl, with and without topical eye drops, Mrs Ketola reported.

In the 2003 study, more than half of the anaesthesia documents had no NRS entries. Of the surgeries that applied fentanyl topical eye drops as pain medication, more than 30 per cent of patients had pain during surgery of at least NRS score 3. The most common pain description was stinging and aching.

When observing patients who received gel anaesthesia, the results of 2003 and 2006 are very similar, with most patients who experienced pain during surgery describing their pain as aching or stinging and 10 per cent scoring over NRS three. In 2003, patients who also felt pain at the end of surgery described it as stinging or aching. In 2006, all patients who experienced pain during surgery (nine per cent over NRS 3) said they had none at the end of surgery. Most of these surgeries that employed a gel anaesthetic were cataract surgeries.

While at first topical anaesthetic drops (fentanyl) appear from the study results to have worked effectively in killing pain

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However, 60 per cent of the patients were pain-free at the end of surgery, she observed. In fact, only few patients experienced pain in excess of score 3 at the end of surgery, describing it as aching or as if they had a band tied around their head. The patients were transferred back to the ward once their NRS score was below 3.

In the 2006 study, the number of patients who experienced pain during surgery was roughly the same (27 per cent) as in 2003. The difference was in the level of pain with one patient, for instance, describing what felt like 'unbearable pain' and another saying he experienced a pain of a pinching nature, Mrs Ketola noted. Compared to 2003, the pain treatment employed was sub-Tenon anaesthesia, and this may explain why patients experienced certain levels of pain, she noted. It may also explain why these same patients experienced relief at the end of surgery (no pain, NRS = zero). The small number of patients that scored NRS 3 or higher following surgery also felt pinching pain at the start of surgery. The majority of these patients underwent vitreo-retinal surgery under peri-bulbar block.

during surgery (over NRS 3: 11 per cent in 2003 and two per cent in 2006), Mrs Ketola highlighted that the number receiving this type of anaesthesia was smaller than the other groups. Furthermore, she noted that although only a handful of patients had pain during surgery, those that did, experienced pain between NRS score 5-7 on the scale and described it as burning and aching. This form of anaesthesia was used in cataract and refractive surgeries.

In all, Mrs Ketola noted that fewer patients experienced pain than she initially expected. The nature of the pain they felt was most commonly described as a pounding ache, pricking pain, or stinging sensation in the documentation. For the most part, vitreo-retinal surgery under peribulbar block was most painful in the study data.

The collective data suggests that patients experienced less postoperative pain in 2006 than in 2003, probably due to different methods of treating intraoperative pain, she maintained. In 2003 patients were given IV painkiller, consisting of local anaesthesia or topical drops for the most part. By contrast, the first line of treatment in 2006 was to apply more anaesthesia, she observed.

There were a high number of inadequate or missing entries. Data collection requires constant training of staff for pain treatment and NRS score collection, Mrs Ketola stressed.

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calendar

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