

SHORT COMMUNICATIONS

Analgesia for day-case shoulder surgery

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Background. Single-shot nerve blocks provide excellent postoperative analgesia for a limited period and are increasingly used in day-case units. They allow early patient discharge following painful operative procedures that would otherwise require overnight hospitalization. We investigated the adequacy of analgesia at home after the block had worn off.

Methods. A prospective audit by telephone 1 week after surgery of 50 consecutive patients who had had a single-shot interscalene block for day-case shoulder arthroscopic surgery.

Results. The mean length of adequate sensory block was 22.5 h (9–48 h) after which 20% of patients had a maximum visual analogue scale (VAS) score of 5/5. Most patients did not take analgesics as prescribed and two patients (5.4%) required additional analgesia from their family doctor or accident and emergency department.

Conclusions. We conclude that analgesia at home is often inadequate after painful day-case surgical procedures if single-shot local anaesthetic blockade is used.

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Because of the development of surgical and anaesthetic techniques, the boundary limits for day surgery are expanding. The 'rules' of a fit patient for short surgical procedures with little postoperative pain and low complication rate are now being stretched. The development of arthroscopic techniques has brought shoulder surgery firmly into the realms of the day-case unit. These operations tend to take less than an hour, with little in the way of postoperative surgical complications. Patients can be rendered pain-free with the use of an interscalene brachial plexus block, obviating the need for parenteral opioids and minimizing the risk of postoperative nausea and vomiting. Unplanned postoperative admissions are therefore significantly reduced.¹ Although there is little in the literature regarding the quality of home analgesia after day-case surgery, what has been published suggests that orthopaedic patients may have moderate-to-severe pain for more than 48 h after surgery.^{2 3}

The question we have asked in this study—what happens when the block wears off?—is pertinent not just to shoulder

surgery but to all day-case procedures in which analgesia is provided by single-shot nerve blockade

Methods and results

We prospectively investigated 50 consecutive patients undergoing day-case arthroscopic shoulder surgery. The study was approved by the local ethics committee.

At the time of the study, our practice was to give patients a single-shot interscalene block with bupivacaine 0.5%, 20 ml, via a B. Braun Stimuplex D 22G 50 mm needle using a peripheral nerve stimulator. All patients received a general anaesthetic with no additional analgesics other than fentanyl (maximum 100 µg) at induction.

Postoperative analgesia was provided by regular paracetamol (1 g four times daily) and diclofenac (50 mg three times daily) to start before the block had worn off, and codeine (60 mg every 4 h) if required. This was explained verbally by the nursing staff before discharge. Preoperative analgesic usage was not recorded.

Table 1 Worse pain score (visual analogue scale 0–5) reported by patients when contacted 1 week after surgery

Score	0	1	2	3	4	5
Number of patients	2	3	5	8	4	5

On admission, patients received an explanatory letter and a study data form to complete contemporaneously. A duplicate form was filled in by one of two anaesthetists who performed the blocks, detailing the block and time and type of surgery. These duplicate forms were then completed by recovery and ward staff and retained in the department. Recovery staff were asked to document a pain score on discharge. All pain scores were on a visual analogue scale (VAS) of 0–5. Patients were asked to document answers to three questions: (i) when they first felt pain and to score the worst pain they felt at any time; (ii) how and when they took the prescribed painkillers and if they were effective; (iii) they were also asked if they needed to call or visit their family doctor. Nursing staff then contacted the patient 1 week after surgery and asked these exact questions.

Forty-seven of the 50 forms were returned, although only 38 (78%) were complete and therefore included for analysis. One of these forms was subsequently excluded from the analysis because the patient had had only a diagnostic arthroscopy. Only one patient (2.6%) had a complete block failure and required morphine.

The 38 arthroscopic operations performed were subacromial decompression ($n=11$), shoulder stabilization ($n=13$), therapeutic arthroscopy of the shoulder joint (thermal capsular shrinkage, debridement or release of frozen shoulder) ($n=7$) and rotator cuff repair ($n=7$). Four patients progressed to an open repair.

In response to when they first experienced any pain and their worst VAS score, two of 34 patients gave an exact answer. The mean length of block was 22.5 h (9–48 h). Of the seven remaining, one said the pain wore off that night and six said the next morning or the next day.

In answer to what was the worst pain (rest or active was not specified) 9 of 27 (4 female, 5 male) patients had a VAS score of 4 or 5 out of a maximum score of 5 (Table 1).

There was no common operation in those with a high VAS score. Only one of the patients who had an open repair reported a VAS score of greater than 3. No patients complained of nausea although this was not specifically enquired about.

It was clear that many patients did not follow the analgesic prescription instructions. Most took analgesia on an as-required basis and a number having taken codeine no longer took the paracetamol or diclofenac. Two patients with a VAS score of 5 sought additional analgesia. One patient was advised to go to the local accident and emergency department at 6 a.m. by NHS Direct and one contacted their family doctor.

Comment

Interscalene blocks are a highly successful form of analgesia for approximately 20 h but once the block has worn off, pain can be severe; nearly 20% of our patients had a maximum pain score. The exact influence of prescription non-compliance or any other patient characteristic cannot be deduced from our data.

We feel that it is not acceptable that 20% of our patients had the worst pain imaginable. Could this level of pain be prevented if these patients were not day cases? This is unlikely as many still had an effective block the morning after discharge.

Continuous regional anaesthesia at home may be the answer.^{4–5} Two recent randomized studies^{6,7} complemented by an editorial⁸ appear to suggest the safety and efficacy of these techniques. However, they are potentially hazardous and relatively labour intensive, even after discharge.

Better patient education on the taking of analgesics at home may well be a safer answer. As well as verbal instructions, we now provide patients with a leaflet on analgesia to take home.

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