

EPIDURAL INJECTION USE FOR LOW BACK PAIN ASSOCIATED WITH SCIATICA AT AN ORTHOPAEDIC CENTRE IN KENYA

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ABSTRACT

Objective: To assess the effects of lumbar epidural steroid injections in patients with radiculopathy (sciatica), by assessing reduction of pain at short term (3 weeks) and intermediate term (12 weeks).

Design: This was a prospective study done between August 2005 and July 2011 at Kikuyu Orthopaedic and Rehabilitation Centre in Kenya involving 121 patients.

Methods: Patient selection was consecutive as the need for the epidural injection arose or was found necessary. After the epidural injection, patients were followed up for 12 weeks.

Results: Of those followed up to the end, 58% reported significant pain reduction at 12 weeks. Four patients had a repeat injection and two patients ended up being operated on.

Conclusion: Epidural steroid injection reduces pain in the majority of well selected patients with low back pain associated with radiculopathy. This seems to be short lived though. There is need for this patients to be followed up longer.

INTRODUCTION

Low back pain is a problem that is common and costly to society, and its effective management remains a challenge (1). In clinical practice a structured approach at the initial consultation facilitates the evaluation of patients with low back pain (2). Patients require an individualised approach using best evidence and the application of clinical art and expertise.

Low back pain with sciatica is one of the most common complaints for which patients seek medical advice. Usually, "leg pain dominant" features indicate lumbosacral nerve root irritation or entrapment, whereas "back pain dominant" features indicate a biomechanical cause. The majority of patients who experience low back pain with sciatica recover after 4–8 weeks with the aid of simple analgesics and non-steroidal anti-inflammatory drugs (3). About 10% of these patients go on to develop chronic radiculopathic pain, which can be difficult to treat. Epidural corticosteroid agents are commonly used in the treatment of low back pain and sciatica (4,5).

Epidural steroid injections for lumbar radiculopathy have been used since 1953 (6). High volumes of epidural solutions have been thought to clear or dilute locally concentrated chemical irritants around the spinal nerve roots (7). An epidural injection is delivered into the epidural space of the spine to provide temporary or prolonged relief from pain or inflammation. The therapeutic effects of epidural steroid injections are attributed to an inhibition of the synthesis or release of pro-inflammatory substances (8). Corticosteroid delivered into the epidural space is able to attain high local concentrations (9). Reports on thousands of

patients indicate that epidural corticosteroid injections are relatively straightforward and safe (10). Giving of epidural steroid injections for treatment of low back pain associated with radiculopathy is not a common practice in this part of the world.

The study aimed to assess the effects of lumbar epidural steroid injections in patients with radiculopathy (sciatica), by assessing reduction of pain at short term (3 weeks) and intermediate term (12 weeks).

MATERIALS AND METHODS

This study was carried out prospectively between August 2005 and July 2011. One hundred and twenty one patients were recruited. Their selection was consecutive as the need for the epidural injection arose or was found necessary. Patients were initially seen at the General Orthopaedic Clinic of PCEA Kikuyu Orthopaedic and Rehabilitation Centre. They were attended to by an orthopaedic surgeon. A history was taken and a physical examination performed. Patients presenting with a lower back pain associated with sciatica were considered for the study.

Investigations carried out included: Full blood count, erythrocyte sedimentation rate, plain X-ray and magnetic resonance imaging.

Patients who were found not to have any other pathology other than back pain with radicular symptoms qualified to be given the epidural injection. The injection was given in theatre by an anaesthesiologist under the guidance of an image intensifier. This was done on an outpatient basis. Only patients who got complications after the injection would be admitted for a day. Patients went home on Non steroidal anti inflammatory drugs and

would attend physiotherapy after the third day at least thrice a week for a period of one month. Assessment of reduction of pain was done at short term (3 weeks) and intermediate term (12 weeks) follow-up.

RESULTS

The youngest patient was 39 years and the eldest was 62 years of age. The average age was 48 years. There were more females than males in the ratio of 2.5:1.

Ninety per cent of the patients recruited were able to follow up the full treatment prescribed. Two per cent did part of the prescribed physiotherapy sessions after the injection while 2% did not attend any therapy. Of the remaining patients 73% reported significant pain reduction after 3 weeks. Twenty seven per cent reported none or very minimal change at this time. All these continued to be followed up until 12 weeks.

At 12 weeks two more patients had got lost to follow-up. Out of the remaining, 58% reported significant pain reduction. They were able to go back to their normal duties with few lifestyle adjustments including avoidance of heavy lifting and prolonged bending. The remaining 42% had similar symptoms as they had before the injection was given. None of the patients who had not improved by 3 weeks did improve at 12 weeks.

The majority of the patients got one injection in the 12 weeks. Four patients did request for a repeat of the injection because they felt that it had given them a good relief initially. The repeat injections were given at week 6. All of them were experiencing recurrence of pain. Two of them had pain reduction at 12 weeks and the remaining two had not significantly improved. Two patients had intolerable pain even after the treatment at 12 weeks and were scheduled for surgery. One underwent a simple laminectomy while the other had a discectomy done. Two patients were admitted overnight after the epidural injection. The main complaint was dizziness and mild headache. They were put on paracetamol tablets and encouraged to drink lots of fluids. They were discharged on the following day.

DISCUSSION

Steroids injected into the epidural space or around the affected nerve root are thought to inhibit inflammatory mediators. However, there is conflicting evidence for a potential benefit of epidural steroid injections (11). Some studies have shown a moderate short term benefit (12-19). This study demonstrates that there are some benefits in terms of pain relief with epidural injection with minimal side effects. It does not seem to last long though. At the one year follow-up after epidural steroid injection, improvement of pain and disability has been reported for 36% to 43% of the patients (19,20). This outcome does not differ greatly from the natural history of the disease (21). The true effect of epidural steroid injections might

be to reduce radicular pain before natural recovery occurs (22). In this study, 58% of the patients followed up to the end had improved.

Despite the lack of evidence for long term efficacy, the use of epidural steroid injection in the United States increased from 553 to 2055 per 100,000 patients from 1994 to 2001 (23). In the United Kingdom, epidural steroid injection for lumbar radiculopathy was one of the most common therapeutic spine injection procedures in 2002-03 (24).

CONCLUSION

Epidural steroid injection reduces pain in the majority of well selected patients with low back pain associated with radiculopathy. This seems to be short lived though. In this part of the world, this form of treatment for radicular pain needs to be considered further. A more comprehensive study needs to be carried out and patients followed up longer. Given by the right person and in the right environment, it is safe.

ACKNOWLEDGEMENT

We wish to thank the Administration of Kikuyu Hospital for allowing us to carry out this research.

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