

A comparison of **patient outcomes** following the use of **dexamethasone 3.3mg vs 6.6mg in lumbar nerve root block/transforaminal epidural injections** for the management of radicular pain.

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Introduction

Nerve root block and transforaminal epidural injections (TfESIs) are useful in the treatment of radicular pain. Dexamethasone (DXM) injections into the epidural space allows for the reduction of inflammation and alleviation of associated symptoms (1). Whilst there is a variety of literature comparing post-injection outcomes using different steroids and other injection agents (2-4), there is limited evidence of the efficacy of different doses of DXM. The aim of this study was to evaluate whether the dose of dexamethasone non-particulate steroid (3.3mg vs 6.6mg) used in a lumbar nerve root block / transforaminal epidural spinal injection (TfESI) affects the efficacy of the injection, measured through patient reported outcome measures (PROMs).

Methodology

249 patients had a lumbar nerve root block or TfESI from 13/07/18 - 01/12/21 by a single surgeon. Inclusion criteria: patients who received a primary TfESI or nerve root block with an injection of DXM 3.3mg or 6.6mg. Through the distribution of questionnaires and the retrospective review of patient notes, 165 data sets were collated which included the dose of DXM used and associated PROMs. A further 26 patients were identified from a previous cohort, creating a data set of 191. The data was statistically analysed, with statistical significance marked at $p < 0.05$.

Results

Demographics

Of the 191 patients, 58 received a dose of 3.3mg DXM and 133 received 6.6mg DXM. Ages ranged from 20-90 years, with a mean of 59.6 (95% CI = 2.56). There were 112 males and 79 females. 91 patients had radicular pain due to a prolapsed disc and 95 had spinal stenosis. Three had a degree of both and two had perineural scarring.

PROMs

Injection outcome was quantified by whether the injection reduced pain within a six-week follow up period. There was no significant difference in injection outcome between the 3.3mg and 6.6mg DXM doses ($p=0.54$).

In the 3.3mg group, 44 (75.9%) had a recurrence of pain following the injection compared to 104 (78.2%) in the 6.6mg group, with no significant difference between groups ($p=0.72$).

22 (37.9%) of the 3.3mg group were listed for subsequent spinal surgery compared to 39 (29.3%) of the 6.6mg group ($p=0.24$).

	3.3mg DXM	6.6mg DXM	Total
Didn't work	12 (20.7%)	19 (14.3%)	31 (16.2%)
Worked; wore off within 6 weeks	24 (41.4%)	61 (45.9%)	85 (44.5%)
Worked >6 weeks	22 (37.9%)	53 (39.8%)	75 (39.3%)
Total	58	133	191

	3.3mg DXM	6.6mg DXM	Total
Pain recurred	44 (75.9%)	104 (78.2%)	148 (77.5%)
Pain did not recur	14 (24.1%)	29 (21.8%)	43 (22.5%)
Total	58	133	191

	3.3mg DXM	6.6mg DXM	Total
Listed for surgery	22 (37.9%)	39 (29.3%)	58 (30.4%)
Not listed for surgery	36 (62.1%)	94 (70.7%)	133 (69.6%)
Total	58	133	191

Conclusion

There was no difference in injection outcome at six weeks between 3.3mg and 6.6mg doses of DXM - they are equally as effective for use in lumbar nerve root blocks/TfESIs for the management of radicular pain.

References

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