

## **Efficacy of transforaminal epidural magnesium administration when combined with a local anaesthetic and steroid in the management of lower limb radicular pain.**

ملخص البحث باللغة الانجليزية:

**Background** One of the common presentation of low back pain and lower extremities pain is lumbar radicular pain which may be caused by a herniated intervertebral disc exerting a pressure on nerve roots, resulting in pain, functional disability, opioid use for pain relief and consuming health resources. The aim of this study is to compare the efficacy of magnesium in radicular lower limb pain when it is added to local anesthetics and steroids in the transforaminal epidural injections

**Methods** This was a prospective, case-control, randomized, double-blind study. Fifty patients each received 2 ml bupivacaine, 1 ml (40 mg) methylprednisolone and 1 ml saline (0.9%) (group C) or magnesium (200 mg) instead of saline (group M). The primary outcome measure was the improvement in the pain score (assessed using a visual analogue scale (VAS)), and the secondary outcome was the improvement in the functional ability (assessed using the Modified Oswestry Disability Questionnaire (MODQ)). The VAS and MODQ scores were assessed before and at 1 day, 1 week, 1 month and 3 months post-intervention.

**Results** The VAS and MODQ scores were significantly better in group M compared to those in group C at all times post-injection ( $p$ -value  $< 0.001$ ). Comparisons within the same group showed that the VAS and MODQ scores were significantly better at all post-injection time points compared to the pre-injection scores in both group C and group M ( $p$ -values  $< 0.0001$ ).

**Conclusion** Adding magnesium to a local anaesthetic and steroid to be injected in the transforaminal epidural space could improve the pain and the quality of life in patients suffering from lower limb radicular pain due to lumbo-sacral disc herniation, and this improvement could last for up to 3 months.