

A disastrous complication of meningoencephalitis following tubular microdiscectomy of the lumbar spine.

Kolkas A, Tsirigkakis S, Theodosis I, Tsoumanis D, Gerasimopoulos P, Tsovilis A, Kosmas D, Gkiatas I, Gelalis I

1.University Hospital of Ioannina, Department of Orthopaedic Surgery and Traumatology, Spine and deformity surgery unit. University of Ioannina, Medical school.

INTRODUCTION

Meningoencephalitis is a rare complication after spinal surgery. The reported incidents in the literature are limited with only two cases presenting meningoencephalitis or encephalitis with aseptic and viral etiologies after spine surgery. We report a case of meningoencephalitis in a patient after tubular unilateral two level decompression.

CASE PRESENTATION

We present a case of a 79yo female, who underwent unilateral tubular decompression of the L3/L4 & L4/L5. The patient had a history of diabetes II and hypertension.

The initial pre-op symptoms were neurogenic claudication by a multiple-level spinal stenosis of the lumbar spine. She received corticosteroids systemically for her paraparesis with no significant improvement.

She underwent a 2-level tubular decompression in another institution.

Post-op the neurological status of the patient didn't show improvement. After 10 days she developed acute low back pain, accompanied by fever and tachycardia.

The patient received oral antibiotics and 2 days later she was referred to our hospital. MRI revealed post-op spinal discitis, epidural and paravertebral abscess. Surgical trauma was dehiscenced and cultures of pus from the surgical trauma revealed MRSA, resistant *Morganella morganii* and *Providencia stuartii*.

The patient underwent wound debridement and additional hemilaminectomy of L4 and surgical drainage of the epidural abscess.

Few days post-op intermittent meningism, eye movement disorders and altered mental state were observed. CSF analysis showed decreased glucose level, increased cell count with high protein content, and increased lactate levels. CSF cultures showed resistant *Acinetobacter baumannii*.

The patient underwent brain and full-spine CT & MRI. Full spine MRI revealed skipped spondylodiscitis at T4 and T5 levels, increased uptake of contrast agent at the thoracic and lumbar region. Brain CT & MRI showed non-specific lesions with increased dural uptake.

The diagnosis of meningoencephalitis was made based on the results of CSF tests.

A 3-fold antibiotic therapy was administered according to the antibiogram. The inflammation values decreased to normal after a period of iv. antibiotic treatment and the patient showed adequate mental status. The paraparesis remained. Surgical trauma was healed and her general condition improved. The patient was referred to a rehabilitation center

CONCLUSIONS

Post-op infectious meningoencephalitis and spondylodiscitis is a rare condition after spine surgery but could be potentially fatal complication.

High suspicion of meningitis after lumbar surgery should be maintained in patients with a clinical triad: fever, neck stiffness and consciousness disturbances.

Administration of corticosteroids pre-op in combination with concomitant health problems in elderly patients could be considered as risk factors for this complication.

REFERENCES

1. Spinal subdural abscess following repeat lumbar microdiscectomy: A case report of imaging findings for a rare infection. Chen SZ, Shimer AL, Nacey NC. Clin Imaging. 2017 Jul-Aug;44:74-78. doi: 10.1016/j.clinimag.2017.04.010. Epub 2017 Apr 27.
2. Dural Tear: A Feared Complication of Lumbar Discectomy. Albayrak S, Ozturk S, Ayden O, Ucler N. Turk Neurosurg. 2016;26(6):918-921. doi: 10.5137/1019-5149.JTN.14065-15.2.
3. Incidental Durotomy in Open Versus Tubular Revision Microdiscectomy: A Retrospective Controlled Study on Incidence, Management, and Outcome. Kogias E, Klingler JH, Franco Jimenez P, Vasilikos I, Sircar R, Scholz C, Hubbe U. Clin Spine Surg. 2017 Dec;30(10):E1333-E1337. doi: 10.1097/BSD.0000000000000279. PMID: 29176490



Figure 1. Dehiscenced surgical trauma



Figure 2. LS MRI.



Figure 3. TS MRI .