

CLINICAL IMAGES

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MRI images of a patient with spondylodiscitis and epidural abscess after stem cell injections to the spine

Hamilton Chen, Eaton Lin

CASE REPORT

A 59-year-old male presented to a tertiary care center with a two-month history of worsening lower back pain. Two months prior to presentation, the patient had gone to Mexico and received multiple stem cell injections from donor placenta into the lumbar intervertebral disc at multiple levels for degenerative disc disease. Since these injections, his back pain had progressively worsened. A MRI was performed and revealed L3-L5 epidural/paravertebral abscess with discitis and osteomyelitis (Figure 1). The patient was empirically started on vancomycin 1 g IV q 12 hours and cefipime 2 g IV q 12 hours. When bone biopsy culture results were positive for candida parapsilosis, the patient was started on fluconazole 800 mg PO daily. A gallium scan showed increased uptake in the lumbar spine region. An L2-L5 laminectomy and I&D were performed by neurosurgery. Following surgery, the patient was transferred to a rehabilitation unit and remained on antibiotics for six weeks. Fluconazole was continued for one year. Follow-up MRI and gallium scan one year after discharge verified infection resolution (Figure 2).

DISCUSSION

Degenerative disc disease (DDD) is a common cause of low back pain. Therefore, regeneration strategies aimed at restoring the disc extracellular matrix and height have been proposed as potential treatments for DDD. There have been many studies that investigated the potential of stem cells for treatment of DDD [1, 2]. Even though there is promise in this treatment modality, the optimum method for stem cell usage is still unclear [3]. Despite this uncertainty, stem cell injections have been available for purchase in the global health marketplace in recent years [4]. Mexico has been leading the flourishing stem cell industry, treating chronic discogenic pain from DDD, cerebral palsy, autism, and paralysis with donor placenta [5].

CONCLUSION

This rare case report demonstrates imaging from the catastrophic complications that can result from stem cell injections into the intervertebral discs and that medical tourism is extremely risky for this procedure, especially when there is insufficient evidence at this time regarding the efficacy of the procedure.

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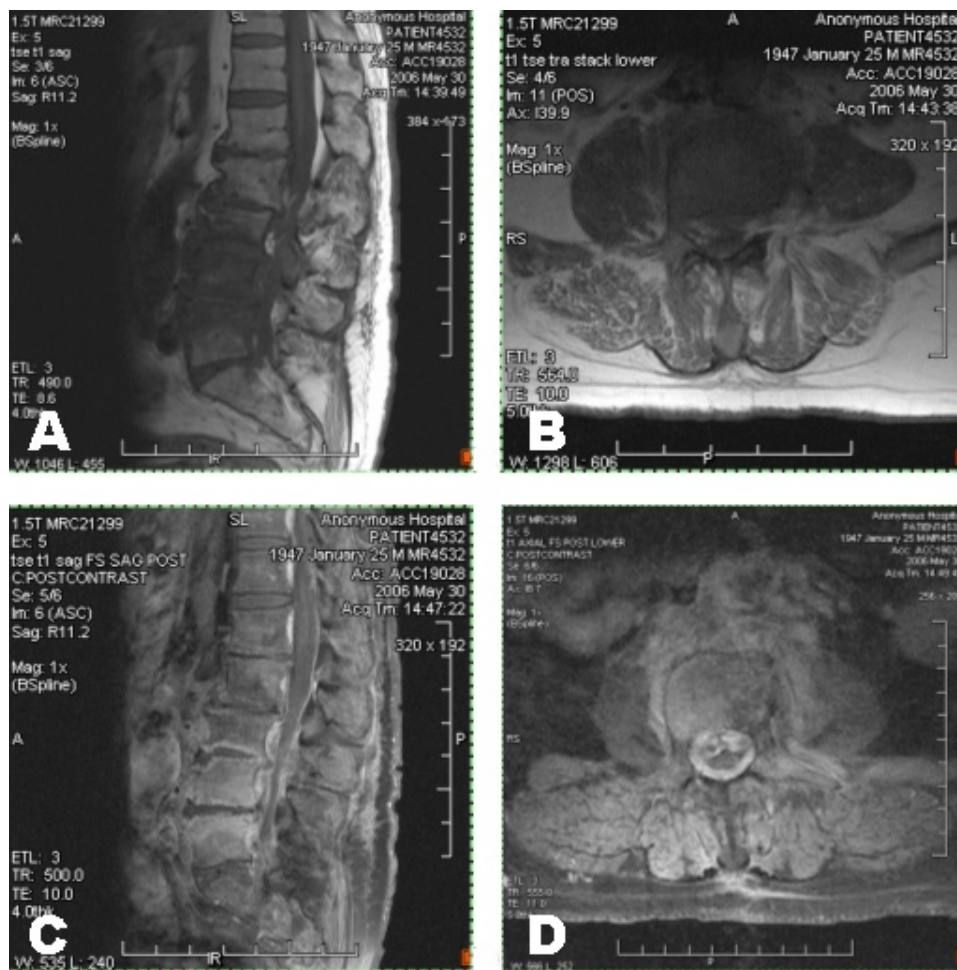


Figure 1: (A-D) Sagittal, (A) T1-weighted image of the lumbar spine demonstrates decreased signal in the L3-L4 and L4-L5 disc spaces, with adjacent vertebral marrow hypointensity in the L3 to L5 vertebral bodies. Sagittal, (C) T1 fat-saturated post-gadolinium images of the lumbar spine demonstrate avid enhancement of the aforementioned vertebral bodies and disc margins. Findings are consistent with L3-L5 osteomyelitis/discitis. Comparison of sagittal, (A) and axial, (B) T1-weighted images against post-contrast images (C, D) demonstrates circumferential enhancing epidural material from the levels of L3 to L5, consistent with epidural phlegmon.

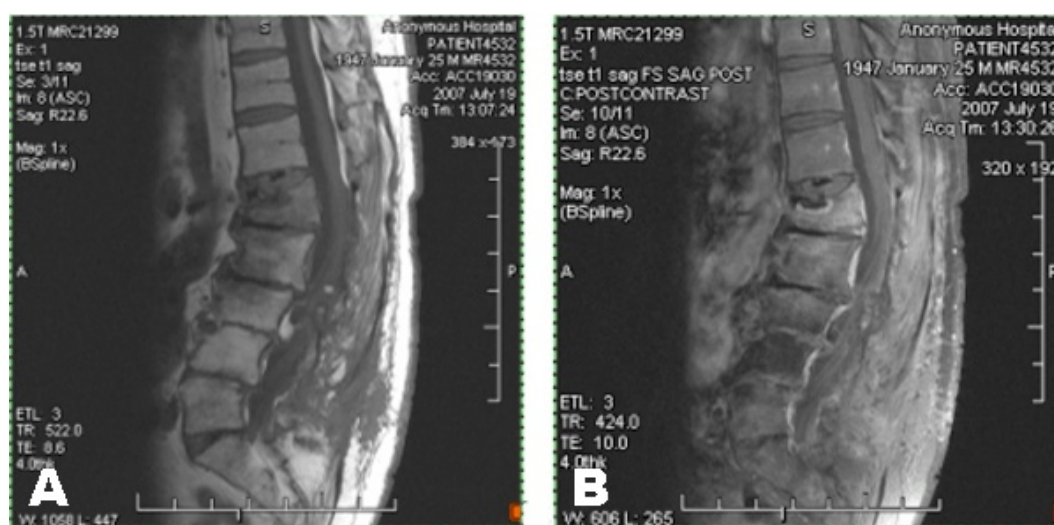


Figure 2: (A-B) Sagittal T1, (A) and T1 fat-saturated post-gadolinium, (B) images of the lumbar spine performed seven weeks later demonstrate marked improvement in previously noted vertebral body and disc space signal abnormalities, consistent with resolving osteomyelitis/discitis. There has also been interval decrease in epidural phlegmon, with minimal persistent epidural enhancement. Interval compression fracture involving the L1 vertebral body was noted, with anterior wedging and Gibbus deformity.

Author Contributions

Hamilton Chen – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Eaton Lin – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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