

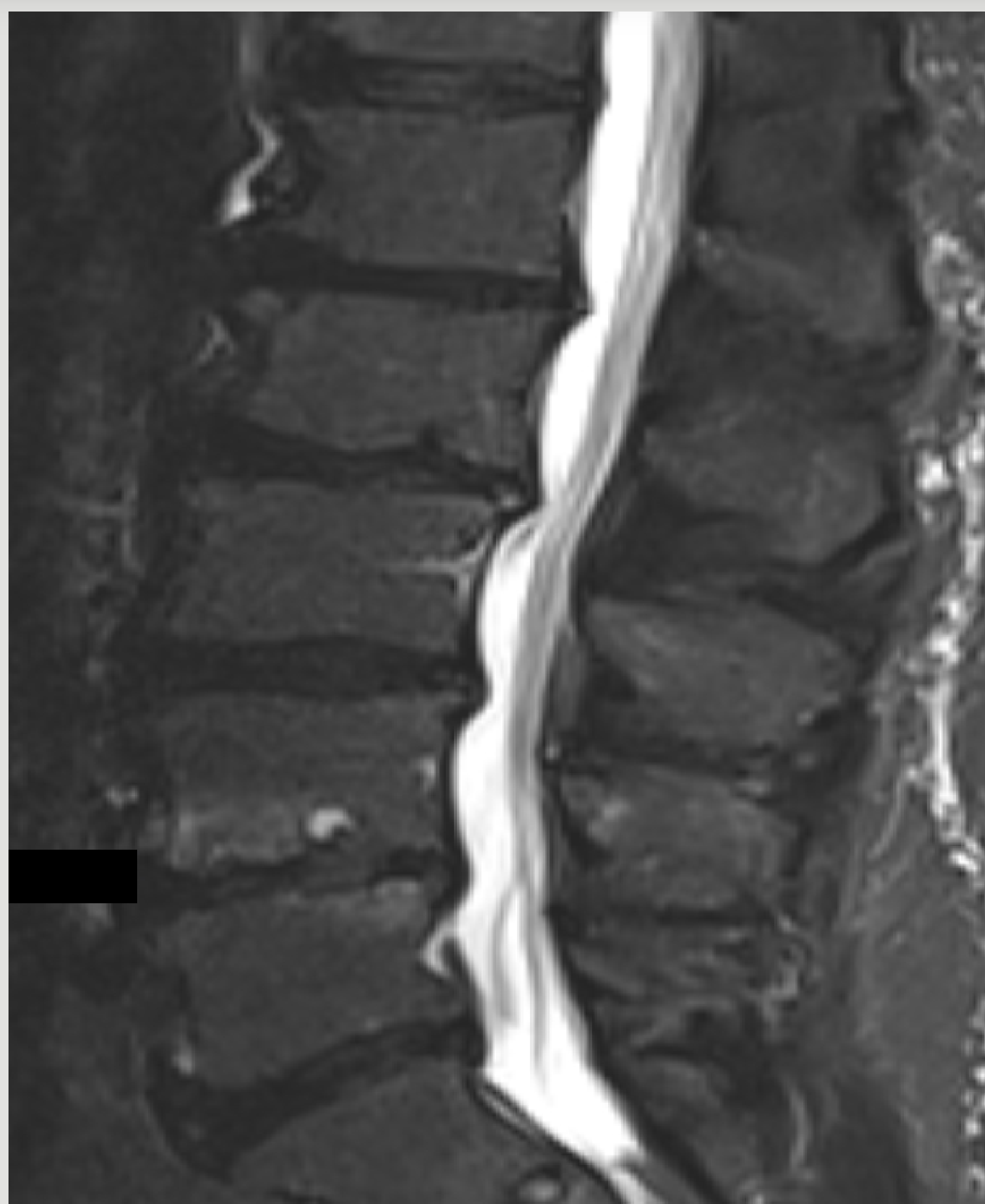
INTRODUCTION

- Chronic low back pain is a common cause of disability but is often non-specific in etiology and limited in response to standard treatment modalities.
- Limited evidence exists suggesting that infection with low-virulence organisms may be responsible in some cases, especially those presenting with Modic I changes of the vertebral body endplates on MRI.
- Additionally, these cases may respond to a prolonged antibiotic course.

MATERIALS & METHODS

- Three male patients ranging in age from 58- 63 years presented with complaints of low back pain.
- Lumbar MRI demonstrated significant degenerative changes, with Modic I changes of the lumbar and S1 vertebral body endplates.
- After conservative treatment, including physical therapy, analgesic medications, and corticosteroid injections, failed to provide long-term symptom relief, all patients agreed to a 90-day course of oral doxycycline 50 mg daily.

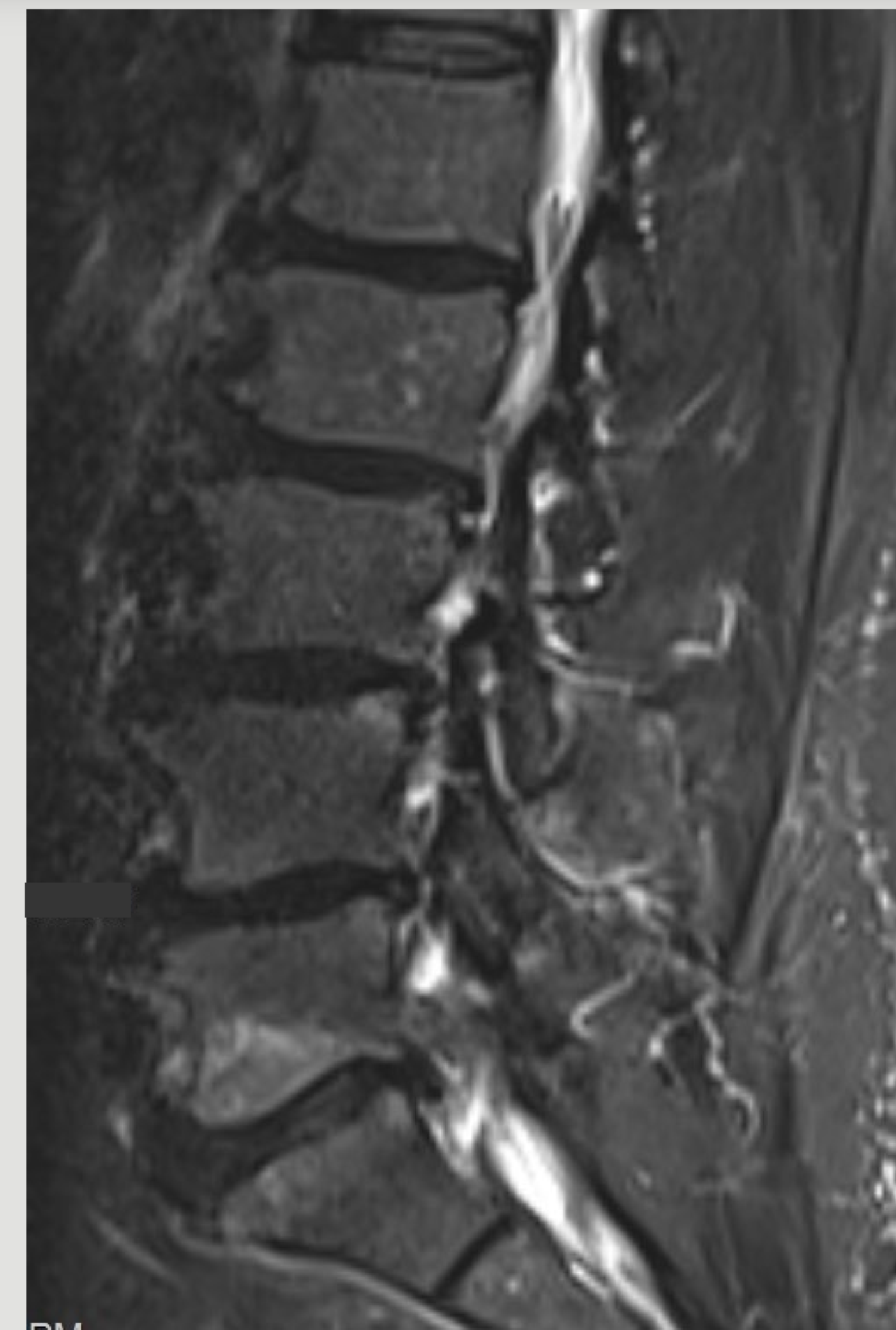
FIGURE 1: L5-S1 MODIC I CHANGES ON MRI



RESULTS

- Following completion of the antibiotic course, all three patients reported a significant improvement in their lower back pain.
- For the three patients, improvement in VAS score from baseline was 70%, 67%, and 75% at three months follow-up.
- No patients experienced adverse effects from antibiotic treatment.

FIGURE 2: L4-5 MODIC I CHANGES ON MRI



DISCUSSION

- Infection with low-virulence organisms, such as *C. acnes*, may contribute to degenerative disc disease and low back pain in some patients, which may improve with antibiotic treatment.
- However, given the potential for adverse effects of antibiotic therapy and the growing concern of antibiotic resistance, it would not be advisable to treat all patients presenting with low back pain with antibiotic therapy.
- Future studies are needed to confirm this potential etiology of low back pain and to better identify those patients who would benefit from antibiotic treatment.