

## SMRT Student Scope Submission

### Title and Author(s)

- Include Title of your submission and any collaborator as co-authors  
Title: Lumbar Epidural Abscess

Authors: Erin B. Macklin

Supervisor Name / Affiliation: Stephanie Setter,  
University of Iowa Hospitals and Clinics, Iowa city, IA

Date of Submission: August 8,2006

### Introduction or Patient History



A 54 year-old male went to see his doctor in July with symptoms of severe low back pain, and an abnormal amount of gas in his bowels. The pain was situated around the area of L2. He also had a small cough, but nothing he felt was really abnormal. He overall felt like he was in good health following a hemorrhoidectomy. However he was a diabetic and was on insulin, one unit per hour. The overall assessment given by his doctor prior to the MRI was the immunosuppressed host (diabetes mellitus) underwent a complex hemorrhoidectomy and presumably got infected with that procedure. Given his symptoms, it was possible for him to have left upper lobe pneumonia. The doctor admitted him and ordered bed rest for the cough and to help with the low back pain. The next day he went for a routine CT lumbar spine without contrast. The exam was negative, with no evidence of injury at L2. An MRI was recommended to reconsider any abnormalities. So on August 2, 2006 he came to the MRI department for a routine lumbar spine without contrast.

### Patient Preparation and Scan Set up



The exam was done on a 1.5T Siemens Avanto magnet. He was properly screened and evaluated on his history prior to the exam. Since he was bed ridden, he was moved over to the couch from a MRI compatible table. He was then positioned supine, with feet first entering into the bore. To make him the most comfortable a sponge was placed under his knees. Instead of ear plugs, he was given head phones with his choice of music for the duration of the exam. He was then positioned, and placed at isocenter.

### MR Imaging Parameters



<u>Sequence</u>	<u>TR</u>	<u>TE</u>	<u>Slice</u>	<u>NEX</u>	<u>Matrix</u>
T2 SAG	3530	102	4	2	512x512x16
T1 SAG TSE	584	11	4	1	384x384x16
STIR SAG H to F	3000	60	5	1	512x512x16
T1 AX	654	11	5	2	640x640x16
T2 AX TSE	7410	11	5	1	320x320x16
*****Contrast: 20cc gadolinium*****					
T1 GAD SAG FS	500	11	4	1	384x384x16
T1 GAD AX FS	646	11	5	1	320x320x16

### Findings and Discussions



The following is from the interpretation given from the MRI exam on August 2, 2006, with an indication of possible right-sided abscess. The exam was reviewed without comparison. The post gadolinium images demonstrate a rim enhancing epidural fluid collection beginning just inferior to the L4-5 disc level and extending inferiorly to the S1-2 level. The disc levels themselves are not involved. This fluid collection measures up to 4mm in greatest AP dimension. The infection appears to extend out along the right L4 nerve root sleeve and becomes round, 14mm ring enhancing fluid collection adjacent to the posterior aspect of the right iliopsoas muscle at the level of the L5 vertebral body. Additionally, a second small rim enhancing fluid collection measuring a 9mm AP x 6mm transverse lies just posterior to the right L5-S1 inferior facet in the posterior paraspinous muscles. On Axial imaging, the entire lumbar spine is noted to be diffusely mildly congenitally stenotic.

At L4-5, the AP dimension of the thecal sac is narrowed to 7mm secondary to mild congenital stenosis as well as the presence of epidural fluid narrowing the thecal sac. No significant degenerative changes of the posterior facet are seen. The neural foramina appear widely patent, but are enhancing diffusely secondary to the epidural abscess.

At L5-S1, the AP dimension of the thecal sac is narrowed approximately 4mm secondary to a combination of epidural fluid and mild congenital stenosis. The facets appear normal.

The descending, unexcited bilateral S1 nerve roots are surrounded by inflammatory material.

## Conclusions



I chose to follow up on this exam due to the fact that epidural abscesses have an estimated incidence occurrence of only 0.2 to 2.8 cases per 10,000 per year, with the peak in patients 60-70 years of age. So I have not seen one of these cases before, and found it interesting that it may have been caused by his previous surgery. Most risk factors are immunocompromised states such as diabetes mellitus, alcoholism, cancer, AIDS, and spinal surgeries. The treatment plan for this man was not included in the follow-up history report. However most treatment plans of choice include surgical decompression, followed by 4-6 weeks of antibiotic therapy. Some patients in good standing are able to be treated without surgery. Having diabetes tends to complicate the treatment plan.

## References

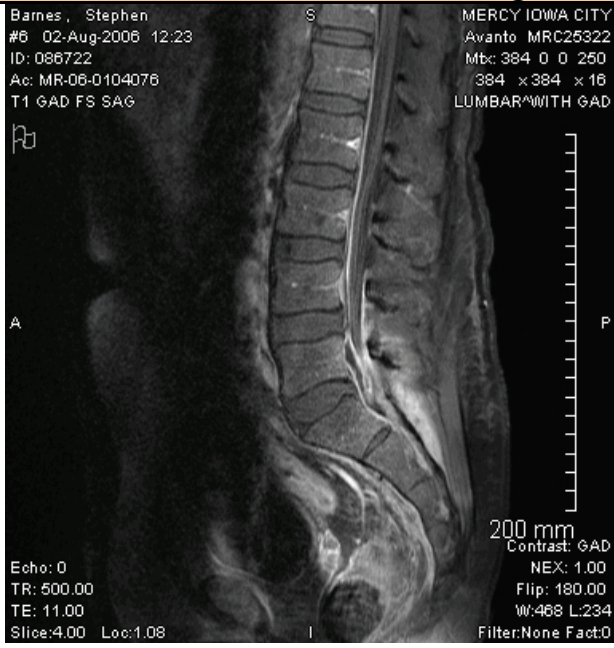


Salata MD. And Yadavalli MD. "Epidural Abscess." 27 July 2004.  
[www.emedicine.com](http://www.emedicine.com)

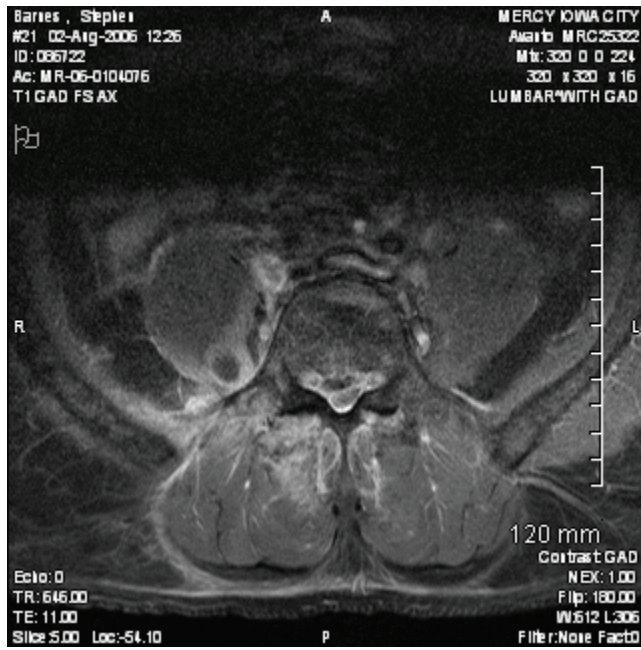
GE healthcare. Medcyclopaedia. 1997-2006.  
<http://www.medcyclopaedia.com>

Truhlar MD. MRI exam dictation, Staff physician.  
Mercy Hospital. 02 August 2006.

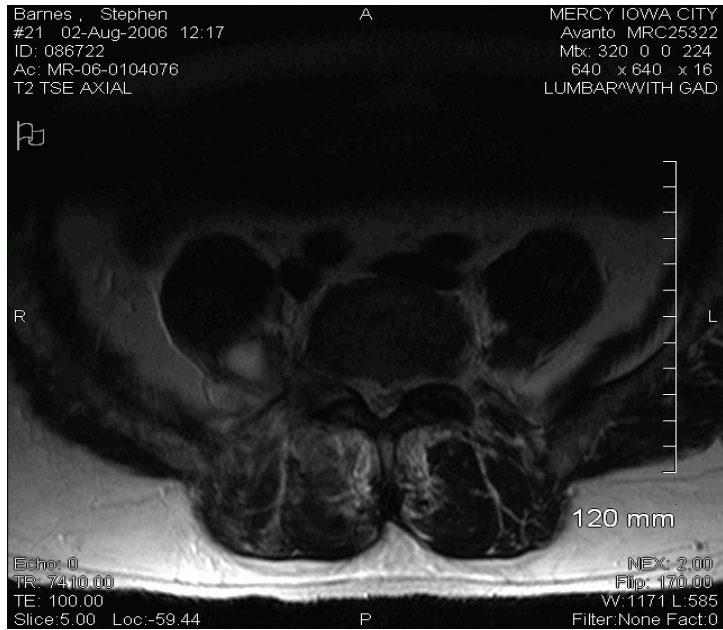
# Images



T1 GAD FS SAG



T1 GAD FS AX



T2 TSE AX