



Chronic Back Pain in the Emergency Room: The Importance of Accurate Diagnosis Identifying Tarlov Cysts

Causing Cauda Equina Like Syndrome

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INTRODUCTION

First described in 1938, Tarlov Cysts (TCs) or meningeal cysts can affect spinal nerve roots, typically in the sacral region.^{1,2} Women are twice as affected as men, with increased incidence around 40-50 years old.^{3,4} These cysts are generally asymptomatic and incidentally found on imaging. Estimated prevalence is 4.6%, with approximately 1% of TCs causing nonspecific symptoms like low back pain.^{2,3,4} While the pathology of these lesions largely remains unclear, symptoms caused by TCs are commonly due to increased hydrostatic pressure in the affected area, resulting in disc bulging and nerve root compression.^{4,5} Due to its vague symptomatology, TCs are commonly misdiagnosed.^{6,7} Because most TCs are asymptomatic, treatment guidelines for symptomatic cysts are ill-defined; however, surgical removal should be considered for TCs measuring greater than 1.5cm in size or causing any symptomatology.^{8,9} If left untreated, large or symptomatic TCs may progress to nerve root impingement, neurologic deficits, intractable sciatica, or cauda equina syndrome.^{10,11}

CASE DESCRIPTION

A 43-year-old woman without insurance and a 2-year history of intractable lower back pain presents to the ED with complaints of perianal numbness in concern of cauda equina syndrome. Symptoms radiate to her right lateral thigh, groin, and buttock bilaterally.

Physical Exam:

General: afebrile, in acute distress

MSK: normal lumbar lordosis, decreased extension ROM, positive bilateral facet loading, tenderness to palpation of right lumbar paraspinal muscle

Neuro: decreased sensation of right lateral thigh, intact rectal sensation, 4/5 RLE strength, 5/5 LLE, 2+ bilateral reflexes, negative straight leg test

Imaging:

Colonoscopy, spine x-rays, CT abdomen/pelvis: unremarkable

Spine MRI shows numerous TCs measuring up to 1.9 cm from T12 to S3 (Figure 1 and 2).

WORKING DIAGNOSIS

- Insomnia
- Anxiety
- Kidney stones
- Hemorrhoids
- Irritable bowel syndrome (IBS)
- Sciatica
- Low back pain

After 5 months of failed treatment, she undergoes spinal laminectomy with TC removal (Figure 3), ultimately providing significant resolution of symptoms and restoring her ability to perform activities of daily living.

IMAGING



Figure 1. MRI Lumbar spine: Tarlov Cysts measuring up to 1.9 cm at the S2-S3 levels.



Figure 2. MRI Pelvis: mild perineural cysts at S1 and large perineural cysts involving the S2 neural foramen; mass effect upon the exiting right S2 sacral nerve root related to the sacral Tarlov cyst.



Figure 3. MRI lumbar spine: post-laminectomy scarring of sacral region

CONSERVATIVE TREATMENT

- Hydroxyzine
- Opiates
- NSAIDs
- Trigger point injections
- SI joint injections
- Facet steroid injections
- Warm baths
- Core strength exercises

CONCLUSION

Our patient underwent multiple assessments for her back pain before reaching a diagnosis of multiple symptomatic TCs. Her uninsured status may have contributed to her delayed diagnosis due to patient and physician hesitancy to proceed with expensive testing for her workup. Obtaining spinal MRI earlier in the patient's presentation may have prevented progression to neurologic deficits, loss of her job (and thus loss of health insurance), and prolonged decrease in quality of life.^{12,13,14}

LEARNING POINTS

- Because TCs are commonly asymptomatic and incidentally found on imaging, there was a prolonged delay in diagnosis of this patient having symptomatic TCs as a reason for her back pain
- Patients presenting to the ED with chronic low back pain that has failed conservative treatments should be further worked up for serious pathology such as meningeal cysts or TCs
 - Guidelines for when MRI should be ordered needs to be standardized to help physician decision making
- If a TC is noted on imaging during this workup, comparison to previous baseline imaging is helpful, as well as considering the size and location of perineural cysts to determine if it is a cause of concern for the intractable lower back pain

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