

Tarlov cysts mimicing bilateral adnexial cystic masses

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Section: Neuroradiology

Imaging Technique: Ultrasound

Imaging Technique: MR

Imaging Technique: MR

Case Type: Clinical Cases

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Patient: 45 years, female

Clinical History:

A 45 year-old female patient referred with vague lower abdominal pain and some related perimenapausal symptoms. Physical examination findings revealed bilateral adnexial masses.

Imaging Findings:

A 45 year-old female patient referred with vague lower abdominal pain and some related perimenapausal symptoms. Physical examination findings revealed bilateral adnexial masses. Pelvic sonographic examination showed bilateral adnexial cystic masses. Before surgical intervention, a pelvic MRI was ordered to evaluate the pelvic lesions and their relationship to the neighboring soft tissues. Pelvic MRI was performed with 1.5 Tesla MR scanner with spin-echo T1, fast spin-echo T2 weighted sequences in three planes, and with an additional MR myelography, which was reconstructed through the heavily FSE T2 weighted images obtained in coronal plane. In MR images, there were bilateral adnexial cystic masses extending toward presacral area. Lumbosacral MR myelography revealed out that bilateral adnexial cystic masses seen on pelvic MRI and sonography have direct connection with thecal sac. The surgical intervention was cancelled upon imaging findings.

Discussion:

Sacral perineural cysts were first described by Tarlov in 1938. They are collections of cerebrospinal fluid (CSF) between the endoneurium and perineurium of the nerve root sheath. The cyst wall consists of peripheral nerve fibers or ganglionic cells covered with meningeal epithelium. The etiology of the sacral perineural cyst remains obscure. But some such cysts are ascribed to previous trauma or arachnoiditis, whereas the majority are idiopathic and considered to be congenital by many authors. The prevalence of the perineural cysts has been estimated to be 4.6% among the general population. Tarlov cysts are found most commonly in the dorsal and lumbosacral spine, are usually small, bilateral and multiple, and communicate with the thecal sac. The disease affects males and females equally. They usually occur in adults. Majority of these cysts are asymptomatic, however they are usually symptomatic in the sacral region where they are most commonly detected. These cysts occasionally cause low back pain, sacrococcygeal pain, sensory and motor disturbance in the lower extremities and urinary dysfunction. On MR imaging, Tarlov cysts are observed as expanded, cystic masses adjacent to the spinal canal with low signal intensity on T1-weighted images and with high signal intensity on T2-weighted images just like CSF. MR myelograms clearly reveal each cyst as a well-defined mass showing hyperintensity or isointensity compared to CSF. MR myelography can be an adjunct to conventional imaging techniques when surgical treatment is indicated, because it can precisely delineate the extent of sacral meningeal cysts. Larger cysts can cause expansion of the neural foramina as well as

thinning and erosion of the adjacent bone, that may be better seen on computed tomography(CT) and CT myelographic images. In addition, conventional- and CT-myelograms demonstrate the presence of free communication between the cyst and the subarachnoid space. Many methods have been used to treat these symptomatic lesions. Minimally invasive methods used by radiologists include percutaneous CT-guided needle aspiration of the cysts. Neurosurgical techniques used for the treatment of Tarlov cysts include bony decompression alone.

Differential Diagnosis List: Tarlov cysts mimicing bilateral adnexial cystic masses

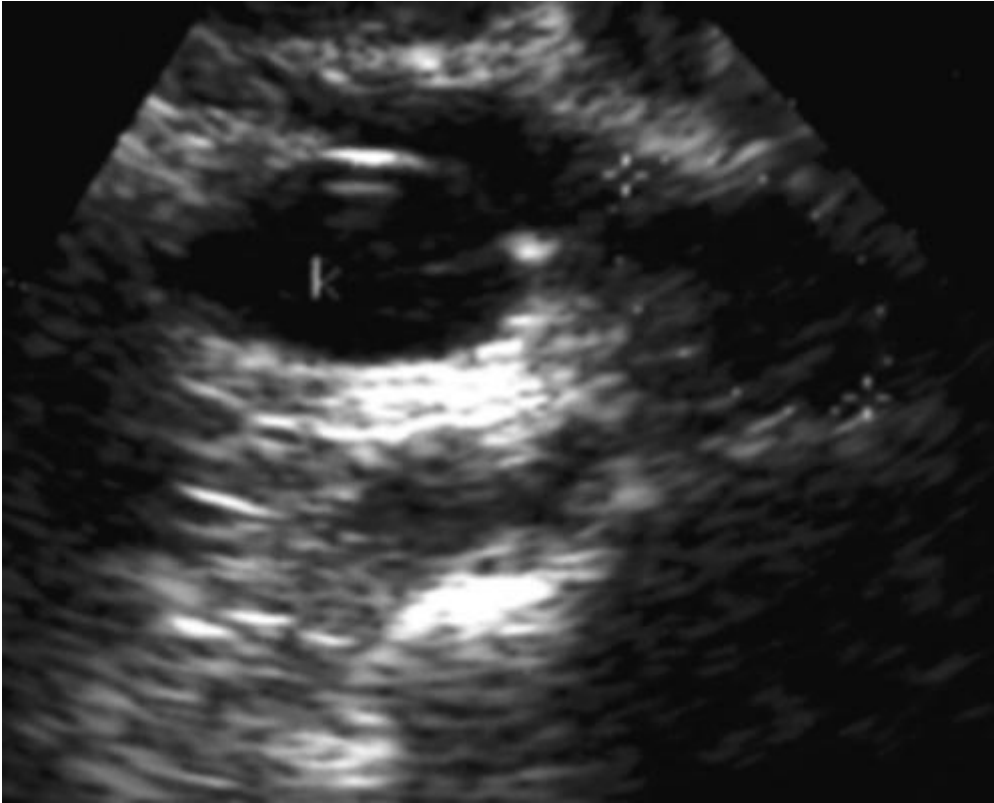
Final Diagnosis: Tarlov cysts mimicing bilateral adnexial cystic masses

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Figure 1

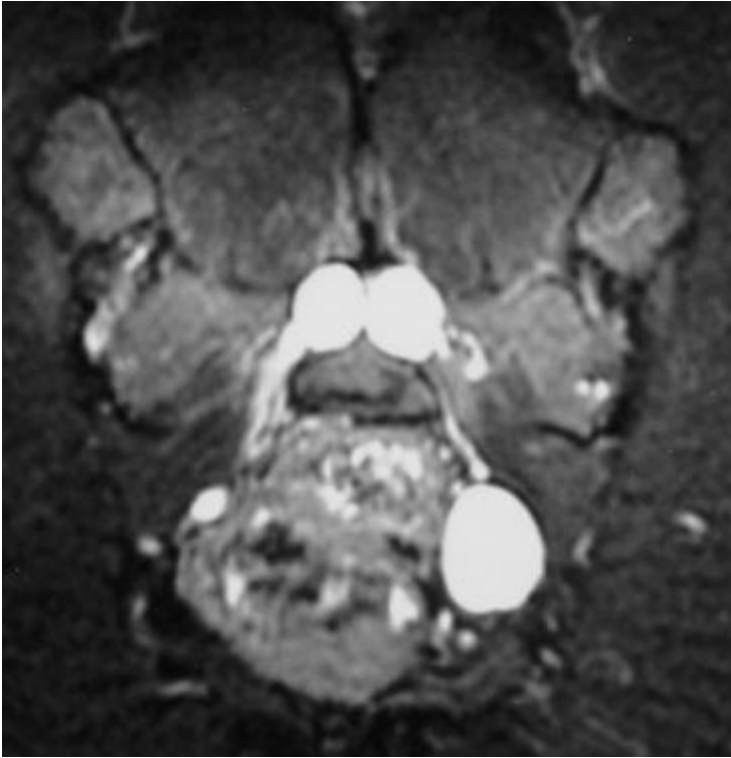
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Description: Pelvic sonography shows bilateral adnexal masses as hypoechoic well-delineated masses. **Origin:**

Figure 2

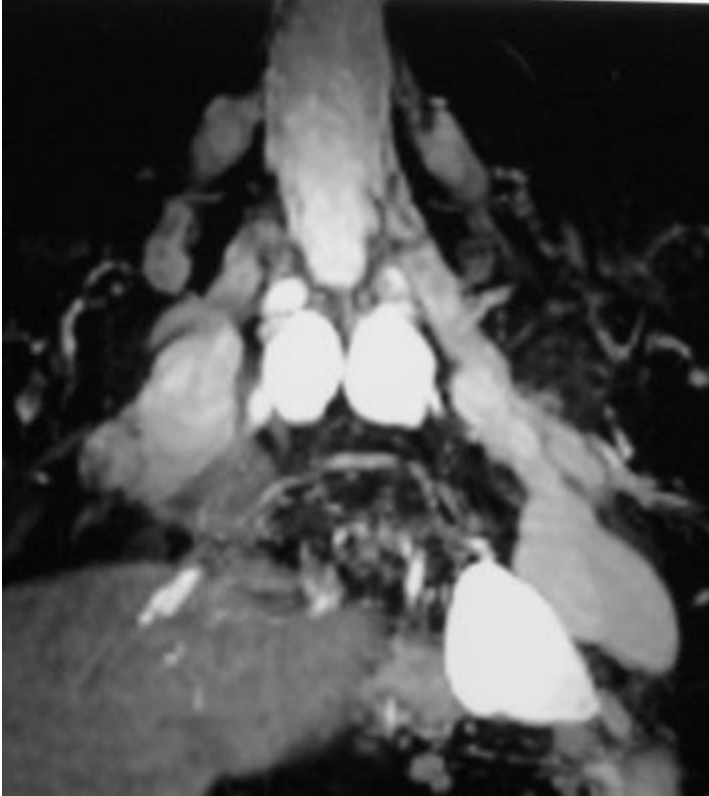
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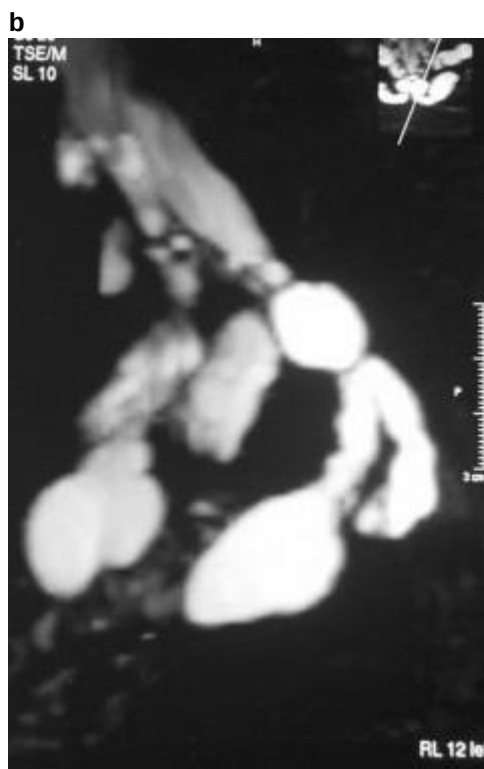
Description: Coronal FSE T2 weighted MR image shows bilateral hyperintense presacral cystic masses which have close relationship with adnexial region. **Origin:**

Figure 3

a



Description: MR myelography reveals bilateral multiple presacral cystic masses which have direct communication with thecal sac. **Origin:**



Description: MR myelography reveals bilateral multiple presacral cystic masses which have direct communication with thecal sac. **Origin:**