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Co-existence of L5-S1 disc herniation and conus medullaris ependymoma

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ABSTRACT

INTRODUCTION: The lumbar disc herniations are seen very common than spinal ependymomas in the neurosurgery polyclinic routine.**PRESENTATION OF CASE:** In our case, both pathologies were seen at the most frequently located levels compatible with the literature.

Aim of this case report is, to remind once more that, different pathologies can be found at the same time in a single patient; differential diagnosis must be done very carefully.

DISCUSSION: The routine Computed Tomography (CT) imaging for low back pain can not show the conus medullaris pathology. Spinal tumors or other similar pathologies should be kept in mind for differential diagnosis. A good medical history and a good physical examination must be completed before the final diagnosis.**CONCLUSION:** Viewing of spinal canal with Magnetic Resonance Imaging (MRI) will be useful for the patients who we intend to do disc surgery.© 2014 The Authors. Published by Elsevier Ltd. on behalf of Surgical Associates Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

1. Introduction

The lumbar disc herniation is most seen at L5-S1 and L4-L5 intervertebral disc spaces.^{6,8} Ependymomas are most seen at the level of filum terminale and conus medullaris.⁵ In our case, both pathologies were seen at the most frequently located levels compatible with the literature. Aim of this case report is, to remind once more that, different pathologies can be found at the same time in a single patient; differential diagnosis must be done very carefully.

2. Presentation of case

The patient was 40-year-old woman who had been diagnosed by lumbar disc herniation. After diagnosis, her complains had been

improved by medical and physical therapy methods, but since last year her back pain has increased gradually. Thus lumbar Computed Tomography (CT) imaging has been done in the local town hospital. According to CT, lumbar disc surgery has been offered to the patient. During the decision-making for surgery, she admitted to Emergency Department of Atatürk Training and Research Hospital, Izmir, Turkey due to increasing back pain and complaining of voiding difficulty for 10 days. Physical examination revealed; 4/5 flexion and dorso-flexion of left thigh, absence of left Achilles reflex, left straight-leg raising test was positive at 60°. Additional to these neurologic symptoms, perianal hypoesthesia and urinary retention were found. A Foley catheter was inserted for relaxing her urinary retention. Magnetic Resonance Imaging (MRI) was performed due to the mismatching of present findings and recently added complains with the symptoms of L5-S1 disc herniation. MRI showed an intradural mass at the level of L1-2, and left-sided L5-S1 disc herniation (Fig. 1). She underwent to surgery. In the operation, tumor was extending along the filum with the starting from end of the conus; dirty-colored, soft and it was slightly vascular. Tumor totally removed via L1 and L2 total laminectomy. After removing of tumor, L5-S1 discectomy was done by making a second incision. Pathologic examination of tumor reported as ependymoma. Complaining of pain and voiding difficulty were improved after surgery. She was doing well 6 months after surgery. There were no neurological deficit or complain on the long term controls.

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⁴ All authors were working in Izmir Atatürk Training and Research Hospital, Izmir, Turkey when this patient was operated.

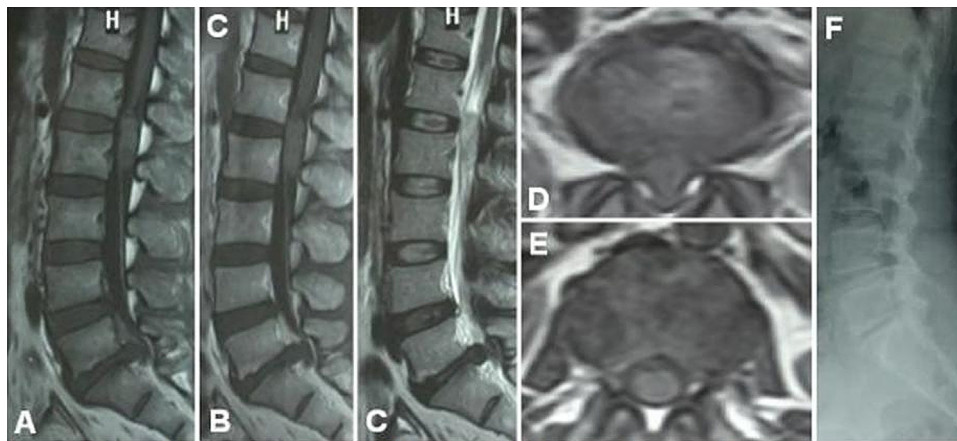


Fig. 1. (A–C) Both pathologies on T1 and T2-weighted sagittal MR images, (B) shows lesion does not absorb contrast, (D) L5-S1 disc herniation on T1-weighted axial, (E) intradural mass at the level of conus medullaris. (F) The decreasing of L5-S1 disc space on plain radiography.

3. Discussion

Primary spinal tumors are rarely seen, and constitute about 15% of all central nervous system tumors.^{2,5} Ependymomas are about 30% of intramedullary spinal tumors. Ependymomas slightly have male predominance, more common in adults in 3rd to 6th decade and the mean onset age is 35. Ependymomas are slow-growing tumors. Over 50% are locating in filum terminale, next common location is cervical. The most common glioma of lower cord is ependymoma.^{4,5} Imaging of entire neuraxis must be done because of potential seedings through cerebrospinal fluid.⁵ The most common complaint is pain, and presents usually diffuse, rarely shows radicular features. Other symptoms include gait, sensory and sphincter disturbances.⁵ In our case, increasing low-back pain and newly emerging urine retention in the last 10 days were primary symptoms. If only discectomy could have been done due to focusing on the L5-S1 disc herniation shown on the first CT scan, she would have not been fully treated. Standard lumbar CT protocol (scans for L3-4, L4-5 and L5-S1 intervertebral discs) performs for diagnosis of low back pain due to absence of MRI device in many local hospitals. When the clinical presentation of the patient did not evaluate carefully and the differential diagnosis was ignored, inadequate or incorrect surgery could be done due to focusing on the large disc hernia which has been shown with CT scan. Hence do not cause such as these situations, we as doctors must not forget to get a good medical history and a good physical examination. Because we are operating on patients, not imaging results. In our case, urinary retention and perianal hypoesthesia complaints were absent when the disc surgery has been offered to the patient. With this case report, we have seen the importance of MRI in the diagnosis and superiority to CT once more.

Menkü et al. reported a nearly similar case in 2004, a 45-year-old woman with ependymoma of filum terminale.⁷ Although preoperative both CT and MRI were done, filum mass have not been seen. Only L4-5 stenosis has been detected, and L4-5 discectomy with left L5 foraminotomy were done. As a result, discectomy could not provide a significant benefit. After 3 months from surgery her leg pain had been gradually increased and admitted again. Pre-contrast MRI showed no pathology, but contrast enhancement MRI showed an intradural mass at the level of L2-3. She was operated again and mass was totally removed. After 6 months from second surgery, she has improved completely. Though Menkü et al. was done lumbar MRI before the first operation, spinal mass was not detected without contrast agent. Whereas in our case, intradural mass was seen clearly on T1 and T2-weighted images, in spite of did not absorb the contrast agent (Fig. 1). The most important difference in these

both cases is, upper lumbar region symptoms were foreground in our patient.

Furthermore, many papers about the disc herniations which mimic tumor or other pathologies have been reported in the literature.^{1,3,9} The most important difference between these cases and our case is presence of two different pathologies at the different levels in our patient.

As a result, MRI is highly sensitive to the soft tissue lesions, but sometimes especially without contrast enhancement, it does not show the pathology clearly.

4. Conclusion

This case report shows us; if there is a mismatch of present clinical and radiological findings, detailed examination and advanced investigations must be done and different pathologies must be excluded before the surgery. Also MRI can be highly superior to CT for imaging of the soft tissue lesions. MRI will be useful for the patients whom we intend to do disc surgery.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Conflict of interest

The authors declare no conflict of interest.

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Ethical approval

I do not have an ethical approval due to It is a single case report.

Author contributions

Mustafa Minoğlu contributed to the study design, data interpretation/performing surgery, writing the paper and follow-up. İsmail Akkol contributed to the study design, data interpretation/performing surgery. Nail Özdemir contributed to the data collection and writing the paper. Levent Yıldırım contributed to collection of the data and performing surgery, follow-up.

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