

Visual Vignette

Dural Tail Sign in Meningiomas

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Case Presentation

A 36-year-old woman with a history of migraine was referred to our clinic for evaluation of the hypothalamic-pituitary axis. She complained of dizziness and decreased visual acuity 4 months prior to the presentation. Brain magnetic resonance imaging (Fig.) showed an incidental dural-based enhancing mass (A) projecting dorsally from the right posterior aspect of the planum sphenoidale and impinging on the medial aspect of the right frontal lobe. The lesion extended into the right anterior/superior aspect of the sella turcica without directly impinging on the pituitary gland (B). Her ophthalmologic examination showed no signs of optic nerve compression despite the patient having visual complaints. Pituitary hormonal workup results, including thyroid function tests, insulin growth factor 1, gonadotropins, prolactin, and morning cortisol levels, were normal.

What is the diagnosis?

Answer

A suprasellar mass is the most characteristic of an underlying tuberculum sella meningioma, with no evidence of pituitary dysfunction. The sagittal section of the magnetic resonance image in the figure shows the enhancing lesion with a “dural tail sign” (DTS) or “tail sign” (C). In the second image, a mouse face overlays the lesion to make it easier to visualize the “tail sign.” DTS is considered a hallmark for radiologic diagnosis of a meningioma. It is seen in 60% to 72% of cases of meningiomas¹ and represents either direct tumor invasion or reactive changes surrounding the tumor itself. DTS is not

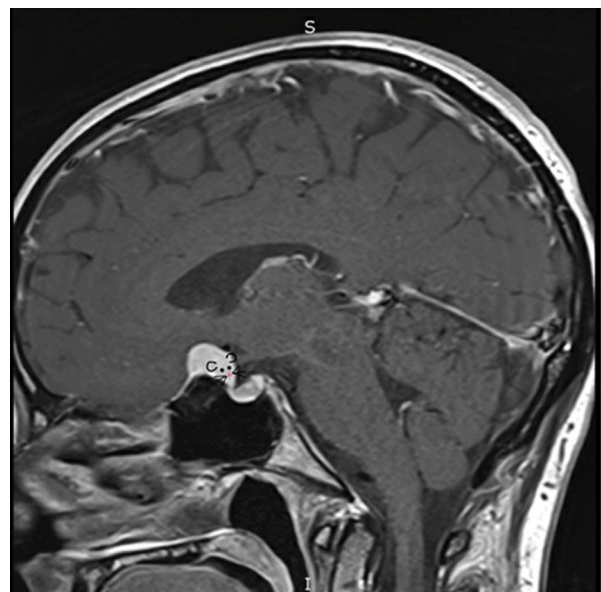
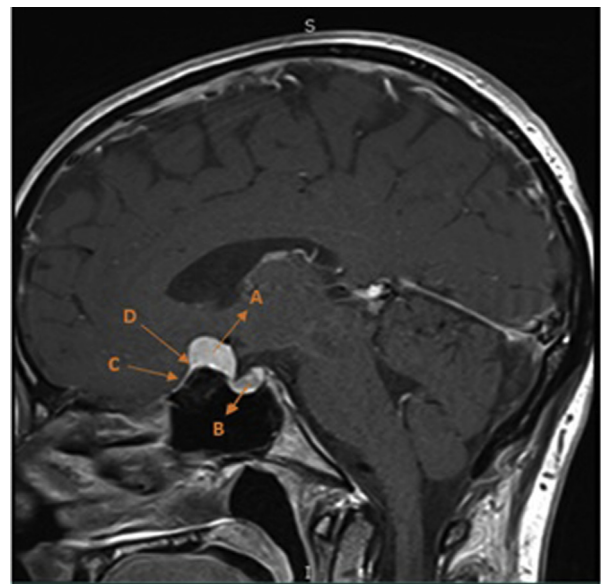


Fig.

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pathognomonic for meningioma because it has been reported in nonmeningiomas pathologies, such as lymphoma, chordoma, and glioblastoma. It may also be seen adjacent to pituitary adenomas. In 1990, 3 criteria for DTS were established by Goldsher et al, which are as follows: (1) presence of the tail sign in at least 2 consecutive cuts through the tumor in more than 1 imaging plane; (2) greatest thickness adjacent to the tumor and tapering away from it (D); and (3) enhancement more intense than that of the tumor itself.² On nonenhanced T1-weighted images, most meningiomas have no signal intensity difference compared with cortical gray matter with enhancement post contrast. On T2-weighted images, the signal is variable. Our patient was evaluated by a neurosurgeon, and

after discussing the various treatment options, the patient agreed to proceed with surgical intervention.

Disclosure

The authors have no multiplicity of interest to disclose.

References

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2. Sotoudeh H, Yazdi HR. A review on dural tail sign. *World J Radiol.* 2010;2(5): 188–192. <https://doi.org/10.4329/wjr.v2.i5.188>.