

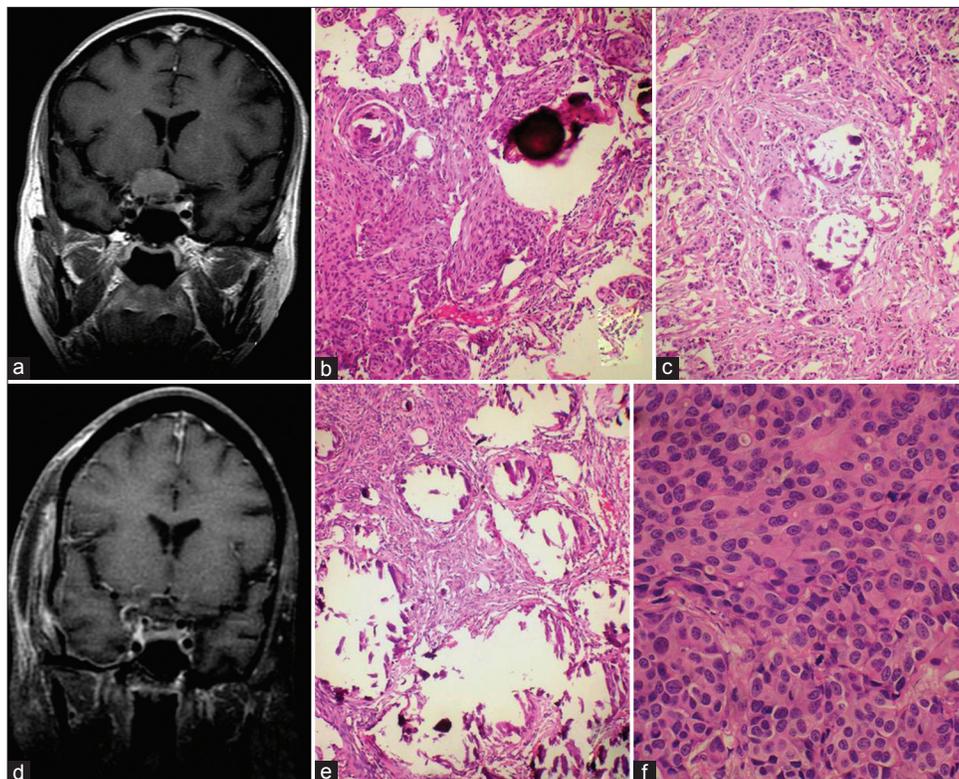
## An unusual metastasis from a breast carcinoma to a psammomatous tuberculum sella meningioma

Sir,

Meningiomas and breast carcinomas share an unusual relationship: Both tumors occur in women in the 6<sup>th</sup> and 7<sup>th</sup> decade; both types of tumors may increase during pregnancy and may demonstrate positivity for estrogen and progesterone receptors.<sup>[1]</sup> They may occur simultaneously in the same patient, contiguous occurrence of a metastatic breast carcinoma and a meningioma and tumor to tumor metastases of breast carcinoma metastases to a meningioma have all been reported.<sup>[1]</sup> Further, the metastatic breast carcinoma may be located in any one of the 3 locations: Within the

meningioma, in the adjacent brain parenchyma or in a remote location.<sup>[1]</sup>

A 60-year-old lady, presented with the history of gradually progressive bilateral decreased visual acuity since 1 year. She had associated headaches. On neurological examination, she was found to have 6/16 vision in both eyes. She was diagnosed case of stage IV carcinoma breast 4 years prior to presentation and had undergone a modified radical mastectomy and received 4 cycles of chemotherapy. The magnetic resonance imaging (MRI) at presentation revealed a well defined T1 and T2 isointense lesion measuring 1.2 × 2.9 × 3.2 cms in the suprasellar region with a broad based attachment to the dura with its epicenter over the tuberculum sellae [Figure 1a and b]. The lesion was contrast enhancing, indenting the optic chiasm and extending up to the optic foramen bilaterally. Tumor decompression was achieved through a right pterional craniotomy. Per-operatively the tumor was firm, calcified and moderately vascular. Histopathology revealed two distinct pathologies a psammomatous meningioma and a carcinoma breast, illustrated in [Figures 1 c-f].



**Figure 1:** a and d demonstrate the pre-operative and post-operative MRI images of the brain. The lesion is visualized in the supra-sellar region, is well circumscribed and enhancing. Paraffin section of tumor showing (c,d) intimate admixture of meningioma with psammoma bodies and carcinoma with acinar arrangement of tumor cells. (e,f) High power view of meningioma and metastatic carcinoma with mitotic activity respectively. (H and E [c,d ×100] [e,f ×400])

Meningiomas are the commonest intracranial tumors to which systemic metastases occur.<sup>[2,3]</sup> In meningiomas, the meningothelial variety appears to be the commonest and to the best of our knowledge there are no reports of metastasis to a psammomatous meningioma.<sup>[3]</sup> Tumor to tumor metastasis are differentiated from collision tumors by Chamber's<sup>[4]</sup> but if stricter criteria of Campbell *et al.*, are used the phenomenon appears to be exceedingly rare with less than 100 cases in reported literature and very few to intracranial tumors.<sup>[5]</sup> Several theories have been proposed to explain the proclivity of metastasis to meningiomas these include rich vascularity, slow growth rate of meningiomas, hormonal factors and low metabolic rate but the conclusive causes remain unknown.

Although, metastasis from a breast carcinoma to a meningioma has been described in literature, this case illustrates metastasis to a *psammomatous meningioma* at the *tuberculum sellae* (both the pathology and location being rare). It stresses the need to maintain a high level of suspicion for neurological symptoms in a diagnosed case of breast carcinoma.

Ravi Dadlani, Nandita Ghosal<sup>1</sup>, Alangar Sathya Hegde

Departments of Neurosurgery, <sup>1</sup>Pathology, Sri Satya Sai Institute of Higher Medical Sciences, Bangalore, India

**Address for correspondence:**

Dr. Ravi Dadlani,  
Department of Neurosurgery,  
Sri Sathya Sai Institute of Higher Medical Sciences,  
EPIP area, Whitefield, Bangalore - 560 066, India.  
E mail: ravi.dadlani@gmail.com

## References

1. Lin JW, Su FW, Wang HC, Lee TC, Ho JT, Lin CH, *et al.* Breast carcinoma metastasis to intracranial meningioma. *J Clin Neurosci* 2009;16:1636-9.
2. Lanotte M, Benech F, Panciani PP, Cassoni P, Ducati A. Systemic cancer metastasis in a meningioma: Report of two cases and review of the literature. *Clin Neurol Neurosurg* 2009;111:87-93.
3. Takei H, Powell SZ. Tumor-to-tumor metastasis to the central nervous system. *Neuropathol* 2009;29:303-8.
4. Chambers PW, Davis RL, Blanding JD, Buck FS. Metastases to primary intracranial meningiomas and neurilemmomas. *Arch Pathol Lab Med* 1980;104:350-4.
5. Campbell LV Jr, Gilbert E, Chamberlain CR Jr, Watne AL. Metastases of cancer to cancer. *Cancer* 1968;22:635-43.

Access this article online	
Quick Response Code:	Website: www.ruralneuropractice.com
	DOI: 10.4103/0976-3147.112780