Prognostic factors of postoperative visual outcomes in tuberculum sellae meningioma

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Abstract

Tuberculum sellae meningiomas usually present optic pathway related symptoms, such as decreased visual acuity and/or visual field defect. In this report, the authors retrospectively analysed 27 patients with tuberculum sellae meningioma who underwent surgical treatment and then sought to identify prognostic factors of the postoperative visual outcomes. From April 1998 to June 2006, the authors treated 27 patients diagnosed with tuberculum sellae meningioma. Age, gender, duration of symptoms, tumour size, tumour consistency on intraoperative and T2WI findings, and resectability were analysed as potential prognostic factors of postoperative visual outcomes. Pre- and postoperative ophthalmological examinations were performed in all patients. Of the 27 patients who presented with visual dysfunction before operation, 12 were improved (44.4%), nine were unchanged (33.3%) and six worsened (22.2%). Those patients with a symptom duration of less than 1 year had a greater likelihood of visual improvement than those with a symptom duration of more than 1 year and those with a soft tumour had a greater likelihood of visual improvement than those with a hard tumour, though this was without statistical significance. Moreover, patients with high signal intensity lesion on T2-weighted images had a greater likelihood of visual improvement than those with an iso or low signal intensity with statistical significance. An excellent correlation was found between tumour consistency and appearance on T2-weighted images ($p = 0.001$). The results of this study indicate that MRI-T2WI can be used to estimate tumour hardness preoperatively and that this is an important prognostic factor of the visual impairments caused by intrasellar meningioma.

Keywords: Tuberculum sellae meningioma; T2-weighted image; visual outcome