Microsurgical resection of perisellar meningiomas has remained the gold standard for treatment, with extended endoscopic endonasal surgery emerging as a viable alternative. Historical microsurgical series do not distinguish based on tumor anatomy, but are being used as a comparison against endonasal surgery. In this study, the authors retrospectively reviewed and compared the anatomy of perisellar meningiomas seen at their institution. The tumors were separated into 2 groups based on whether they would be appropriate for endoscopic resection, and the authors compared the surgical outcomes. METHODS Between 2001 and 2013, 53 patients (73.6% women) with perisellar meningiomas underwent open microsurgical resection at Vancouver General Hospital performed by the senior author (R.A.). These tumors were separated into 2 groups based on their anatomy, and the authors analyzed the resection rates, surgical results, patient quality of life, and complications. RESULTS Among the 53 patients who presented with perisellar meningiomas, the authors were able to identify 18 lesions with "simple" anatomy suitable for endoscopic resection and 35 lesions with "complex" anatomy suitable for craniotomy resection. The mean age of patients in the study cohort was 57.4 years (range 33-91 years), and most patients presented with visual loss (68.0%) and visual field restriction (64.2%). There were no major differences in patient demographic data between the 2 groups. Patients with simple anatomy had smaller lesions (2.1 vs 3.5 cm; p = 0.004), no optic canal invasion (89% vs 26%; p < 0.0001), minimal vascular encasement (cortical cuff 83% vs 9%; p < 0.0001), and a rounded tumor shape (100% vs 31.8%; p = 0.0001) when compared with those with complex anatomy. The majority of lesions originated from the tuberculum sellae and planum sphenoidale. A greater degree of resection was achieved in the favorable anatomy group (99% vs 87.1%; p < 0.0001). Vision was improved or normalized in 96.6% of patients. Patients in the cohort with complex anatomy had more transient complications; there were no incidents of surgical-site infection, meningitis, or death in this series. One patient who underwent removal of a recurrent lesion experienced a CSF leak that required endoscopic repair. The overall persisting complications rate was higher in the group with complex anatomy (11.1% vs 37.1%; p = 0.0498); overall, 28.3% of patients experienced disabling complications. Patient-perceived quality of life improved in the simple anatomy group following surgery (Δ SF-36 +16.6 vs -8.4; p = 0.0045). CONCLUSIONS Extended endoscopic surgery is emerging as a viable alternative to microsurgical resection of perisellar meningiomas. The authors identified 2 patient groups based on tumor anatomy, with distinctly separate surgical outcomes. In the future, patients considered for endoscopic resection should be compared against the surgical group with simple anatomy that includes smaller tumors, no vascular encasement, and limited optic canal invasion ¹⁾.

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Makarenko S, Carreras EM, Akagami R. Craniotomy for perisellar meningiomas: comparison of simple (appropriate for endoscopic approach) versus complex anatomy and surgical outcomes. J Neurosurg. 2016 Jun 10:1-10. [Epub ahead of print] PubMed PMID: 27285536.

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