Safe Surgical Decompression is the Priority in Treating Granular Cell Tumor of the Sellar Region

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Introduction

Granular cell tumor (GCT) is a rare, predominantly benign neoplasm that can occur in the sellar region. The purpose of this study was to determine common presenting features, management approaches and the long-term outcome of GCT of the sellar region.

Methods

Institutional databases, the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) database, and PubMed/EMBASE were searched for GCT of the sellar region. Patient-level data were extracted where available, including age, sex, symptoms, tumor size and location, presumed diagnosis, surgical approach and result, subtotal resection (STR) and gross-total resection (GTR), use of radiation, and outcome. The primary endpoints of recurrence and survival were determined.

Figure 1.

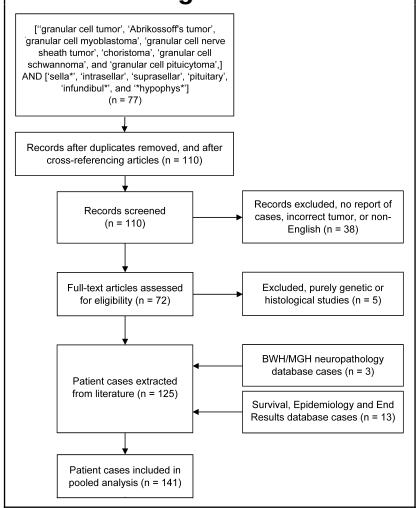
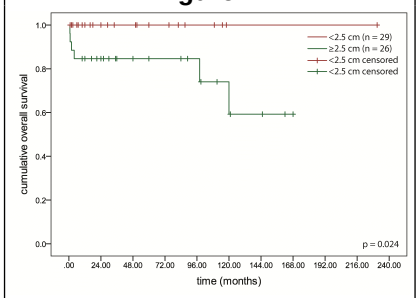
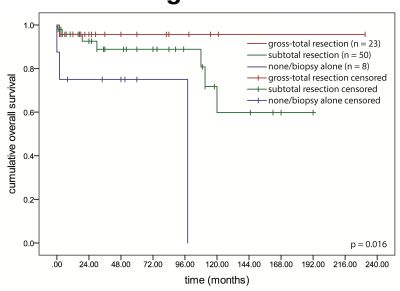


Figure 2.



A sequential comparison by 0.5 cm increments revealed that patient with tumors less than 2.5 cm experienced a greater 5-year OS (100.0 percent) than patients with tumors 2.5 cm or larger (74.0 percent, SE 11.7), (Mantel-Cox, p = 0.024)

Figure 3.



Surgical patients receiving GTR had a greater 5-year OS (95.7 percent, SE 4.3) than patients receiving STR (88.8 percent, SE 5.5) and patients receiving no surgery or biopsy alone (75.0 percent, SE 15.3) (Mantel-Cox, p = 0.016)

Results

A total of 141 cases were analyzed. The mean age at diagnosis was 48.9 (SD: 15.3) with a female predominance (sex ratio 1.49:1). Almost all patients experienced either or both neurological and endocrine symptoms. The most common pre-operative diagnosis was pituitary adenoma. Approximately 60 percent of patients were treated with surgery, 57.7 percent with a craniotomy and 39.7 percent with a transsphenoidal approach. The 5-year overall survival (OS) was 84.7 percent (standard error, SE: 4.2). Patients with tumors less than 2.5 cm experienced a greater 5-year OS (100.0 percent) than patients with tumors 2.5 cm or larger (74.0 percent, SE: 11.7), (Mantel-Cox, p = 0.024) (**Figure 2**). GTR resulted in a greater 5-year OS (95.7 percent, SE: 4.3) than STR (88.8 percent, SE: 5.5) and no surgery or biopsy alone (75.0 percent, SE: 15.3) (Mantel-Cox, p = 0.016) (**Figure 3**). The use of radiation therapy did not improve OS. The 5-year progression-free survival rate was 80.8 percent (SE: 9.2).

Conclusions

Granular cell tumor of the sellar region is a relatively benign neoplasm with distinct clinical manifestations. It occurs in mid-life and more commonly in females. GCT of the sellar region is often misdiagnosed as more common sellar lesions. Accurate perioperative diagnosis can inform surgical management. Surgical resection is appropriate for management. Tumor size and extent of resection influence overall survival. Adjuvant radiation therapy might be considered in the course of management.

Learning Objectives

By the conclusion of this session, participants should be able to:

1) Describe the presentation of GCT of the sellar region

2) Identify the optimal approach to treating GCT of the sellar region