

OUTCOME AND PROGNOSIS OF TYPICAL AND ATYPICAL PITUITARY ADENOMAS IN A MONOCENTRIC EXPERIENCE



S. Chiloiro¹, F. Doglietto², D. Iacovazzo¹, A. Giampietro¹, F. Di Nardo², C. de Waure³, L. Lauriola⁴, A. Mangiola⁵, C. Anile⁵, G. Maira⁵, L. De Marinis¹, A. Bianchi¹

1) Section of Endocrinology, Department of Internal Medicine, Catholic University, School of Medicine, Largo A. Gemelli 8, 00168, Rome, Italy

2) Neurosurgery, University of Brescia, Largo Spedali Civili 1, 25123, Brescia, Italy

3) Institute of Hygiene, Catholic University; 4) Institute of Anatomic Pathology, Catholic University; 5) Institute of Neurosurgery, Catholic University, School of Medicine, Largo A. Gemelli 8, 00168, Rome, Italy

BACKGROUND AND OBJECTIVE

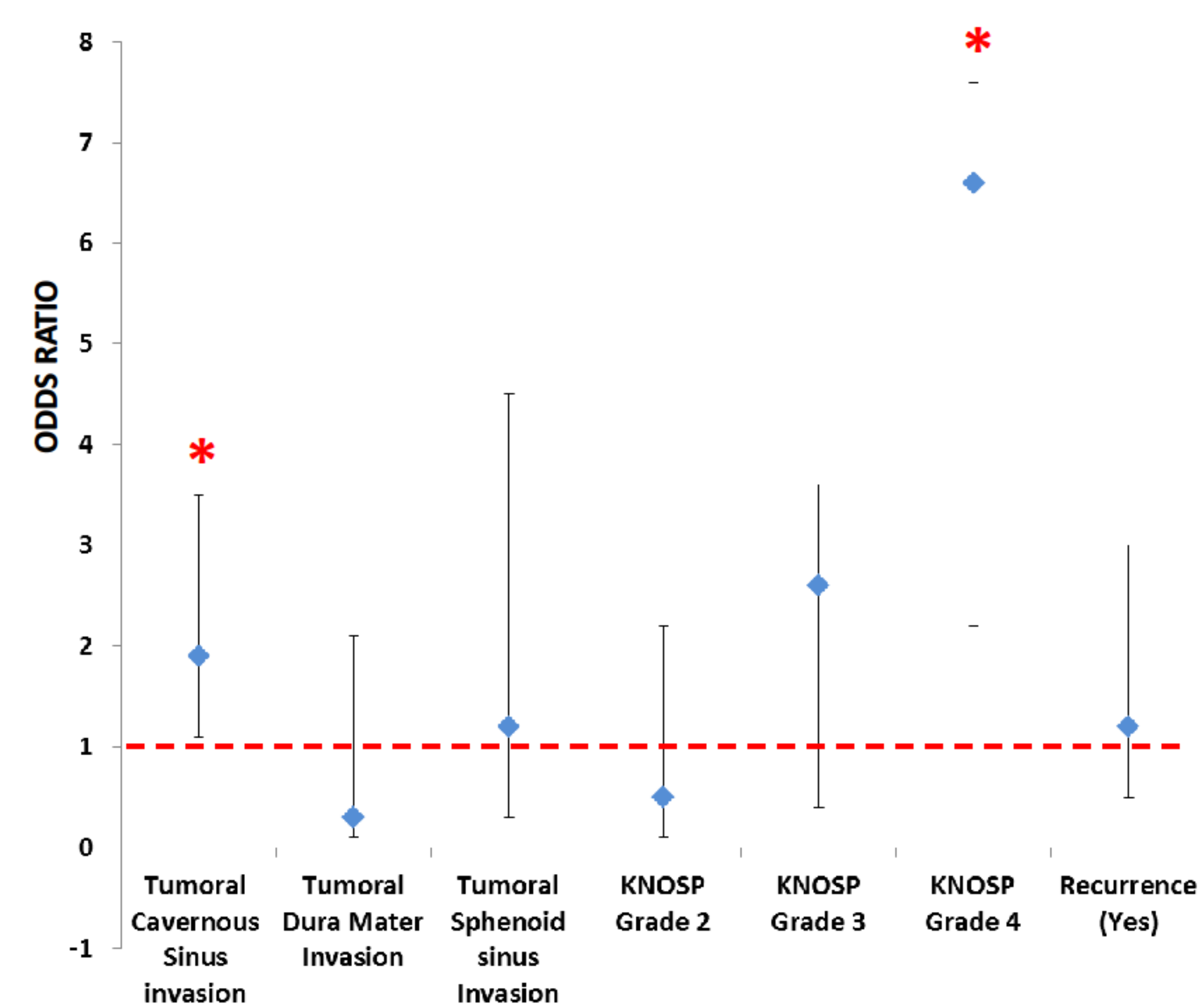
Atypical pituitary adenomas (APA), in 2004, were defined according to WHO classification, as those with Ki-67>3%, excessive p53 expression and increased mitotic activity and invasive behavior. The real usefulness of this classification is still controversial, so we reviewed compared clinical and prognostic features in our typical and atypical pituitary adenomas

PATIENTS AND METHODS

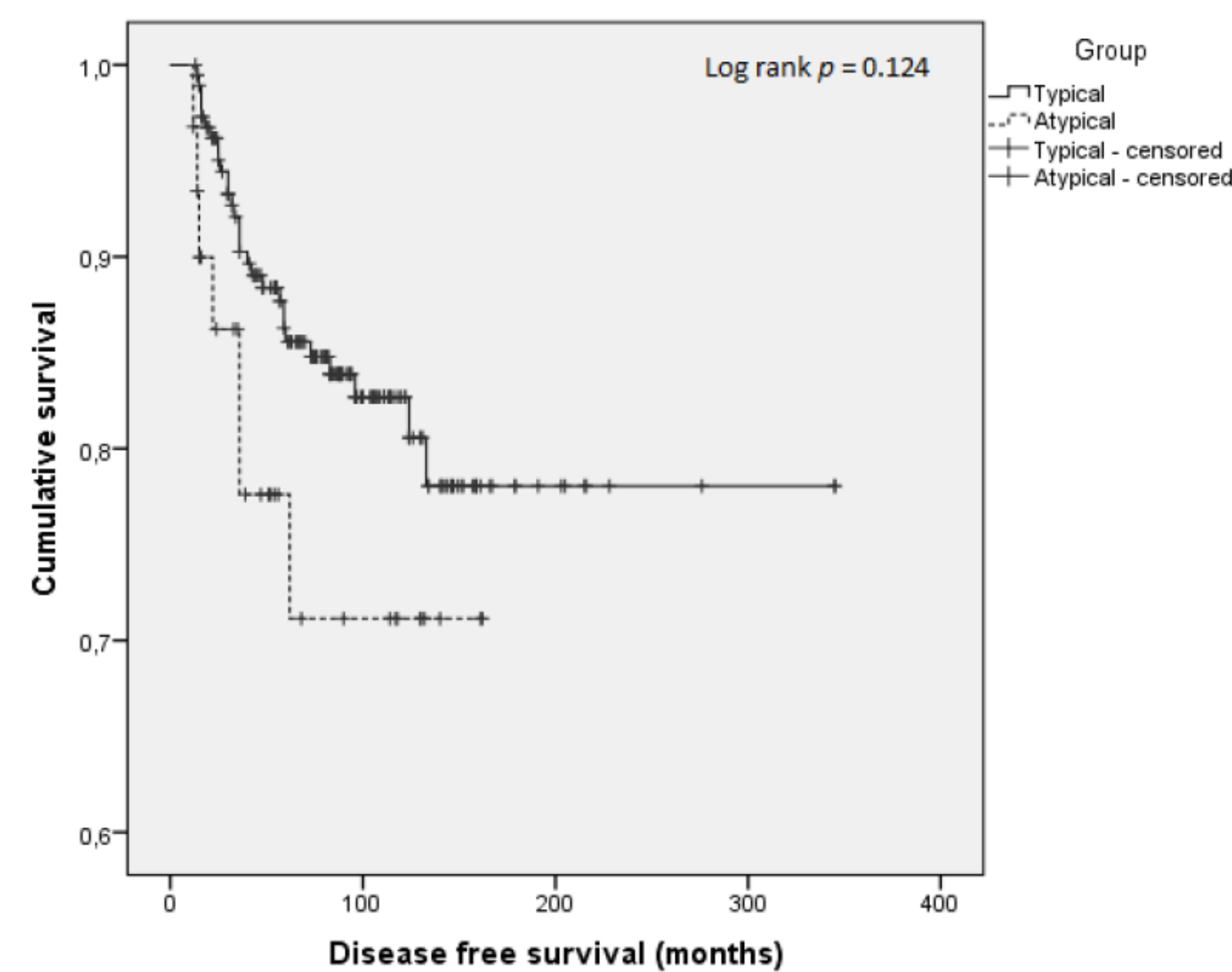
We retrospectively reviewed 343 consecutive pituitary adenomas (PAs). Atypical pituitary adenomas occurred in 18.7% of cases. All patients were operated on in the Department of Neurosurgery at our institution and followed up at the Hypothalamic-Pituitary Disease Unit of the same institution. None patient had an adjuvant treatment pre-neurosurgery. Median follow-up time in our series was 75 months (range:7-345 months)

RESULTS

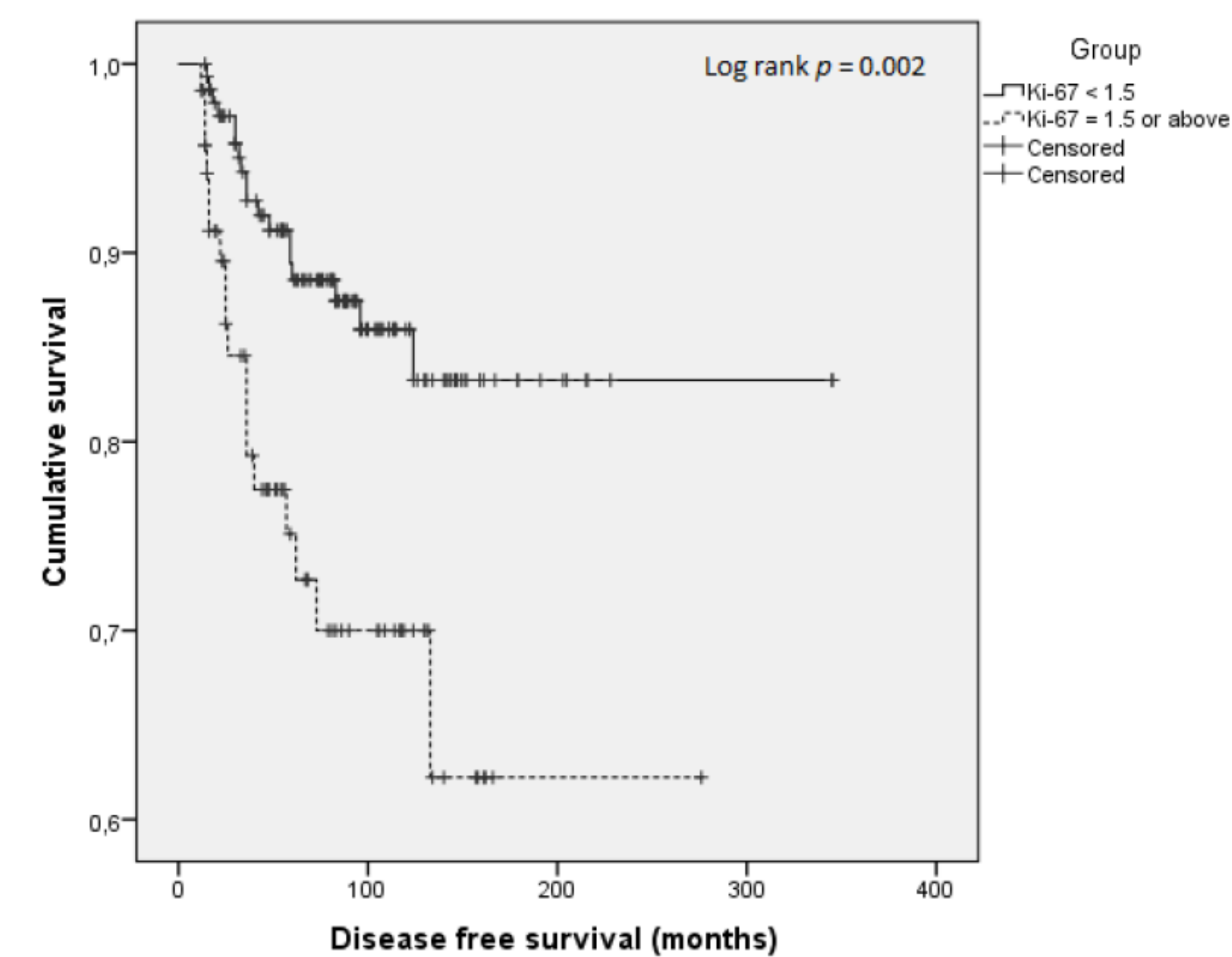
More frequently atypical pituitary adenomas were diagnosed in younger patient. However we found a similar prevalence of atypical pituitary adenomas in male and female patients. A higher risk of being affect for an atypical pituitary adenoma was identified in cases characterized by an ACTH- and PRL-immunohistochemical positivity. According to WHO classification, cavernous sinus invasion was associated with higher risk of being affect of an atypical pituitary adenoma and consequently a higher risk of a partial pituitary adenoma neurosurgery resection. In our series we separately analyzed recurrence and disease free survival time (DFST) in patients undergone radical neurosurgery (219 cases). In this group of radically resected pituitary adenomas, we find a similar risk of recurrence-disease and a superimposable DFST between typical and atypical pituitary adenomas. Moreover, in this series we found that Ki-67 expression $\geq 1.5\%$ was associated to a higher risk of recurrence and to a worse DFST, even after correction for age at diagnosis, gender, immunohistochemical classification, tumor size, invasiveness and Knosp classification ($p=0.01$; HR: 2.572; 95%CI: 1.251-5.285). Pituitary adenomas with Ki-67 $\geq 1.5\%$ showed a worse DFST as compared to pituitary adenomas with Ki-67<1.5% (HR: 2.166; 95%CI: 1.154-4.064)



ODDS RATIO for atypical pituitary adenomas. Results of univariate analysis. * for $p < 0,05$



DFS time, atypical adenomas vs typical adenomas, HR 1.5



DFS time, patients with Ki67 < 1.5% vs Pts with Ki67 $\geq 1.5\%$, HR 2.2

CONCLUSIONS

In this series, atypical and typical pituitary adenomas didn't differ for recurrence and DFST. Pituitary adenomas with Ki-67 $\geq 1.5\%$ showed a higher recurrence risk and a worse DFST as compared to PAs with Ki-67<1.5%. We suggest that a Ki-67 $\geq 1.5\%$ may be useful as prognostic marker.

