

OUTCOMES OF SURGICALLY TREATED NONFUNCTIONING PITUITARY ADENOMAS

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INTRODUCTION The sequelae of surgically treated non-functioning pituitary adenomas (NFPA) is an important area of study to help plan management. The aim was to study all Maltese patients who had a surgically treated NFPA and analyse the results of surgery, risk factors for tumour recurrence/regrowth and the role of postoperative radiotherapy.

METHODOLOGY 175 patients were identified as having a NFPA of whom 77 had underwent pituitary surgery. Detailed analysis of these patients was done including their demographic details, surgical details, post-surgical management, regrowth and recurrence patterns.

RESULTS 63.6% of patients presented with visual field defects, 40.3% had headaches at presentation and 87.0 % had chiasmal compression by their NFPA. Residual tumour postoperatively was evident in 67.5% of patients while 29.9% of patients had immediate postoperative radiotherapy. Recurrence /regrowth was documented in 18.2% of patients within a median time of 3.2 (IQR: 1.6-5.6) years. Factors that were found to be statistically significantly associated with a higher rate of regrowth were the presence of residual tumour ($P = 0.036$), presence of cavernous sinus invasion ($P = 0.034$) and the lack of postoperative radiotherapy ($P = 0.004$).

CONCLUSIONS By studying this cohort of patients we were able to characterise better the outcomes of NFPA management and outline risk factors which can effect prognosis.



FIGURE 1. Sequential MRI scans of a particular case showing regrowth of residual pituitary adenoma post trans-sphenoidal surgery (TSS), subsequent re-operation and radiotherapy (RT).

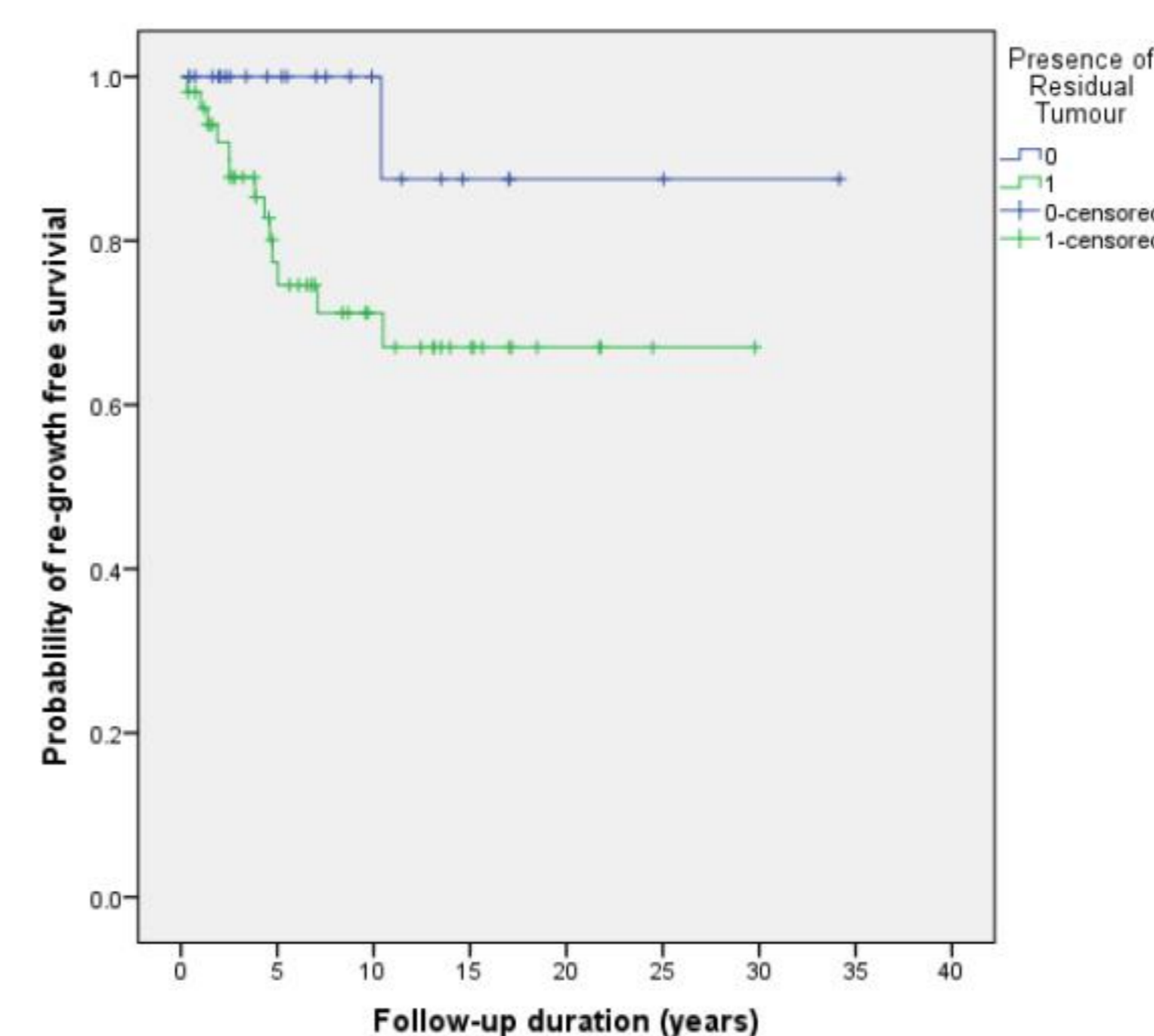


FIGURE 2. Kaplan-Meier estimates of cumulative recurrence-free survival probability classified according to the presence or absence of post-operative residual pituitary adenoma remnant. ($P = 0.036$)

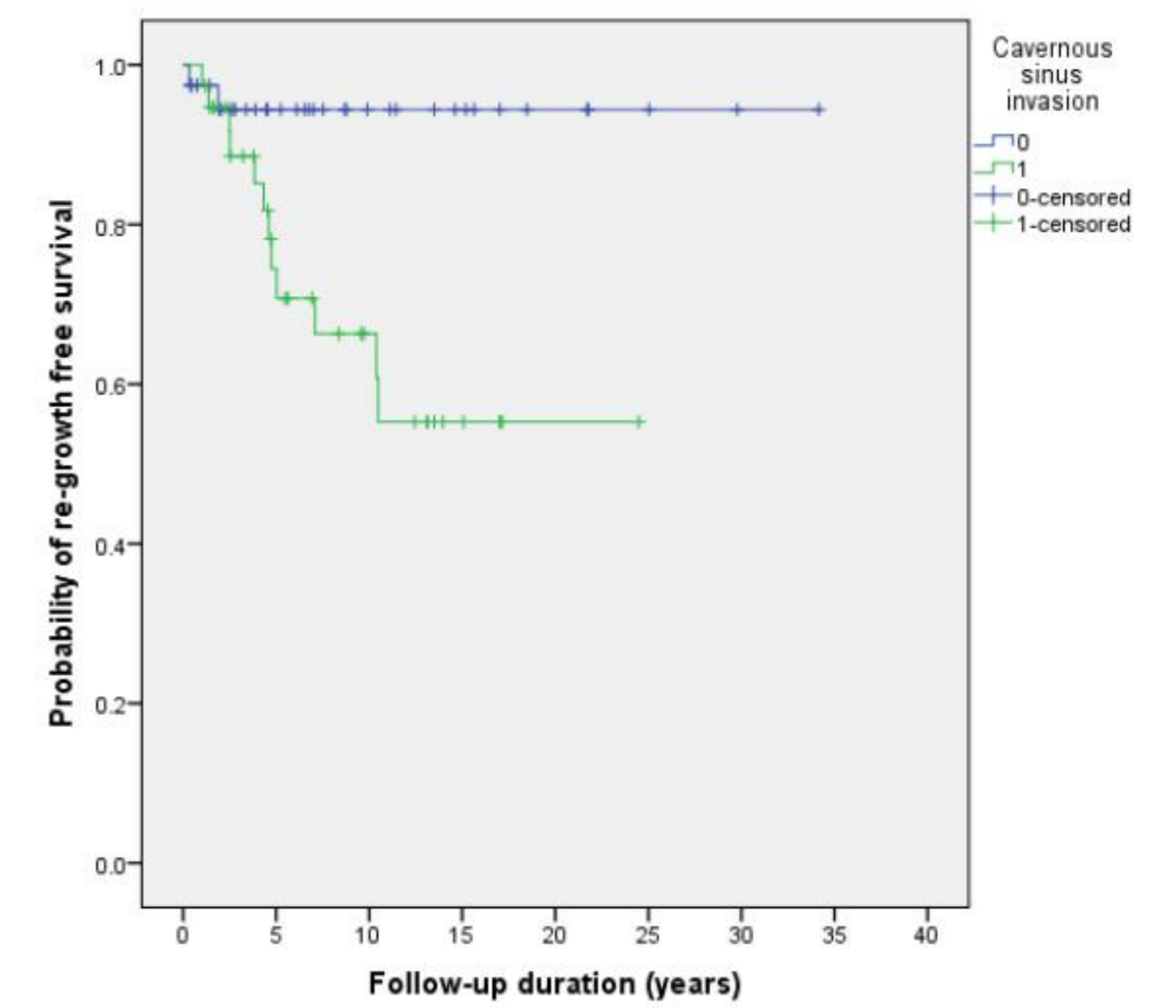


FIGURE 3. Kaplan Meier estimates of cumulative recurrence-free survival probability classified according to whether patients had post-operative radiotherapy. ($P = 0.004$)

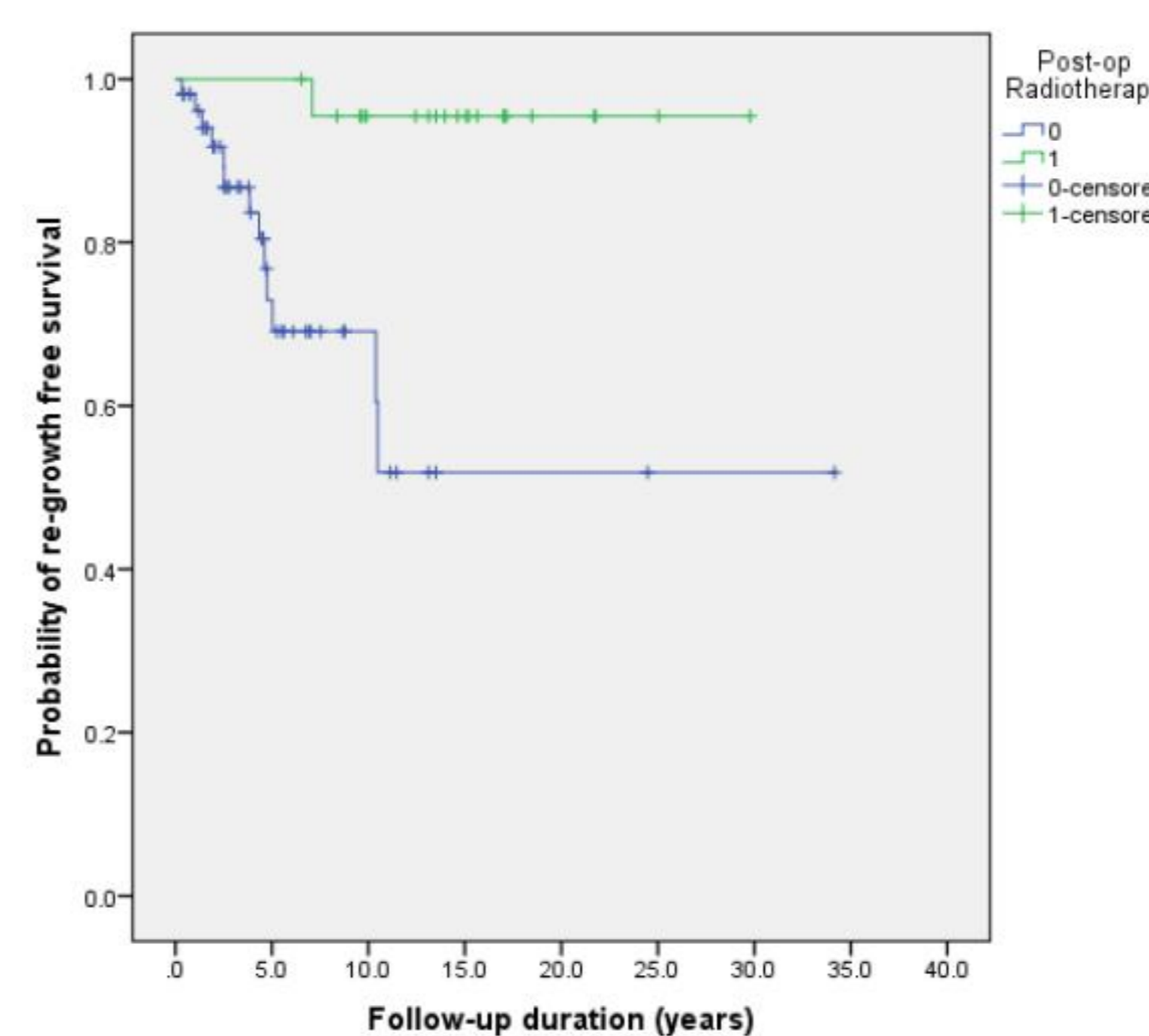


FIGURE 4. Kaplan Meier estimates of cumulative recurrence-free survival probability classified according to whether patients had post-operative radiotherapy. ($P = 0.004$)

Independent risk factors for tumour regrowth by multivariate Cox hazard analysis:

- Absence of post-op RT ($P = 0.010$);
- Cavernous sinus invasion ($P = 0.020$).