

# Long-term recurrence in nonfunctional pituitary adenomas after surgery

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## OBJECTIVES

Nonfunctioning pituitary adenomas (NFPA) can experience recurrence and/or progression (R/P) several years after surgery in about 15-50% of patients. There is little evidence about risk factors that could predict R/P. The aim of this study is to identify them and describe our experience through a long term of follow up in pituitary macroadenomas.

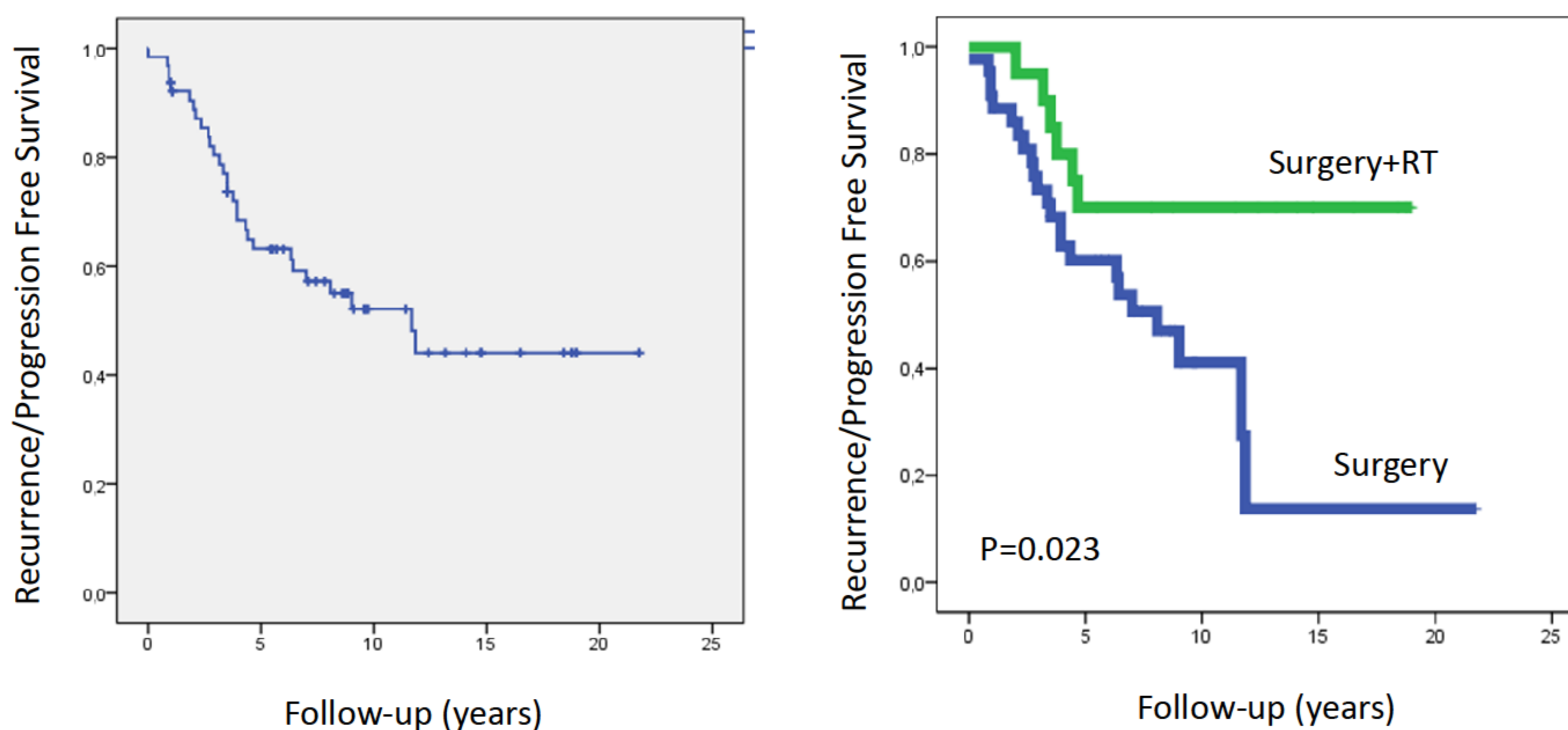
## METHODS

Retrospective cohort analysis of 64 patients who underwent surgery between 1990-2013. The main outcome was to evaluate prevalence of R/P during the follow-up, based on imaging criteria and identify some risk factors for R/P.

## RESULTS

Over a median follow up of 10,12 years, there was 46% of R/P after surgery at a median time of 4,6 years, the cumulative risk of being free of R/P was 62% by 5 years and decrease to 45% by 15 years after surgery. Multivariate cox proportional hazard regression analysis identified the following risk factors as associated with increased risk of recurrence: radiotherapy after surgery (hazard ratio 2.90, 95% confidence interval 1.15-7.46, P= 0.023) and the tumor size at diagnosis (hazard ratio 1.05 confidence interval 1.009-1.10, P=0,019).

Kaplan- Meier estimates of Recurrence and /or Progression (R/P)



Logistic Regression Analyses	HR (95% IC)	P Value
univariate		
Age (years)	0.99 (0.97-1.02)	0.66
Male sex	1.2 (0.56-2.56)	0.63
Hypopituitarism	2.8 (0.38-20.86)	0.30
Pituitary apoplexy	1.8 (0.68-4.77)	0.23
Pathologic campimetry	1.41 (0.61-3.25)	0.37
Invasive tumor	2.58 (0.24-3.08)	0.064
Quisima compression	1.71 (0.78-3.71)	0.17
Rests after surgery	1,64 (0,36-7.35)	0.51
multivariate		
Tumor size (mm)	1.05 (1.009-1.10)	0.019
Postoperative RT	2.90 (1.15-7.46)	0.023

Table: Predictors of R/P

## CONCLUSIONS

Patients with NFPA need long-term follow up because they have a high risk of R/P over time. Radiotherapy after surgery decreases the risk of recurrence or progression specially after 5 years. The tumor size at diagnosis is an independently risk of R/P.