

MAGNETIC RESSONANCE IN SURGICAL CURE OF PATIENTS WITH CUSHING DISEASE

D. Guelho¹, D. Martins¹, I. Paiva¹, L. Cardoso¹, N. Vicente¹, D. Oliveira¹, M. Balsa², F. Carrilho¹

¹Endocrinology, Diabetes and Metabolism Department of Coimbra Hospital and University Centre, Portugal
²Endocrinology, Diabetes and Nutrition Department of Baixo Vouga Hospital Centre, Portugal

INTRODUCTION

Cushing disease (CD) is a rare disorder caused by an ACTH-secreting pituitary adenoma. Transphenoidal surgery (TSS) is the recommended first-line treatment. However, an equivocal or even normal preoperative magnetic resonance imaging (MRI) can preclude the surgical management and the outcome of these patients.

OBJECTIVES

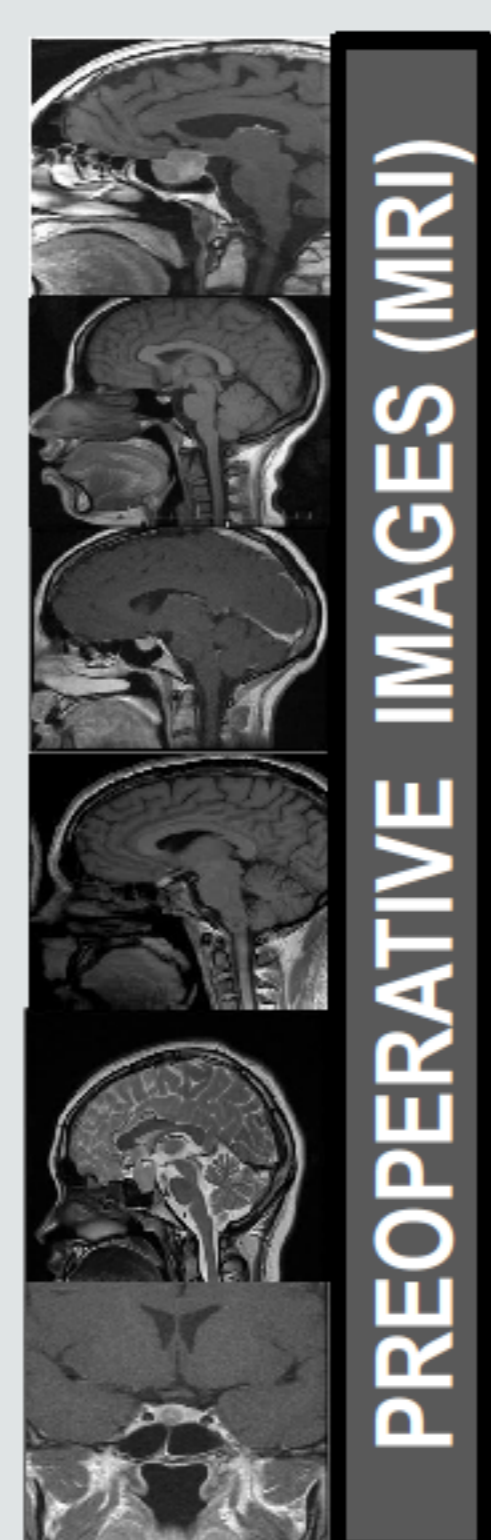
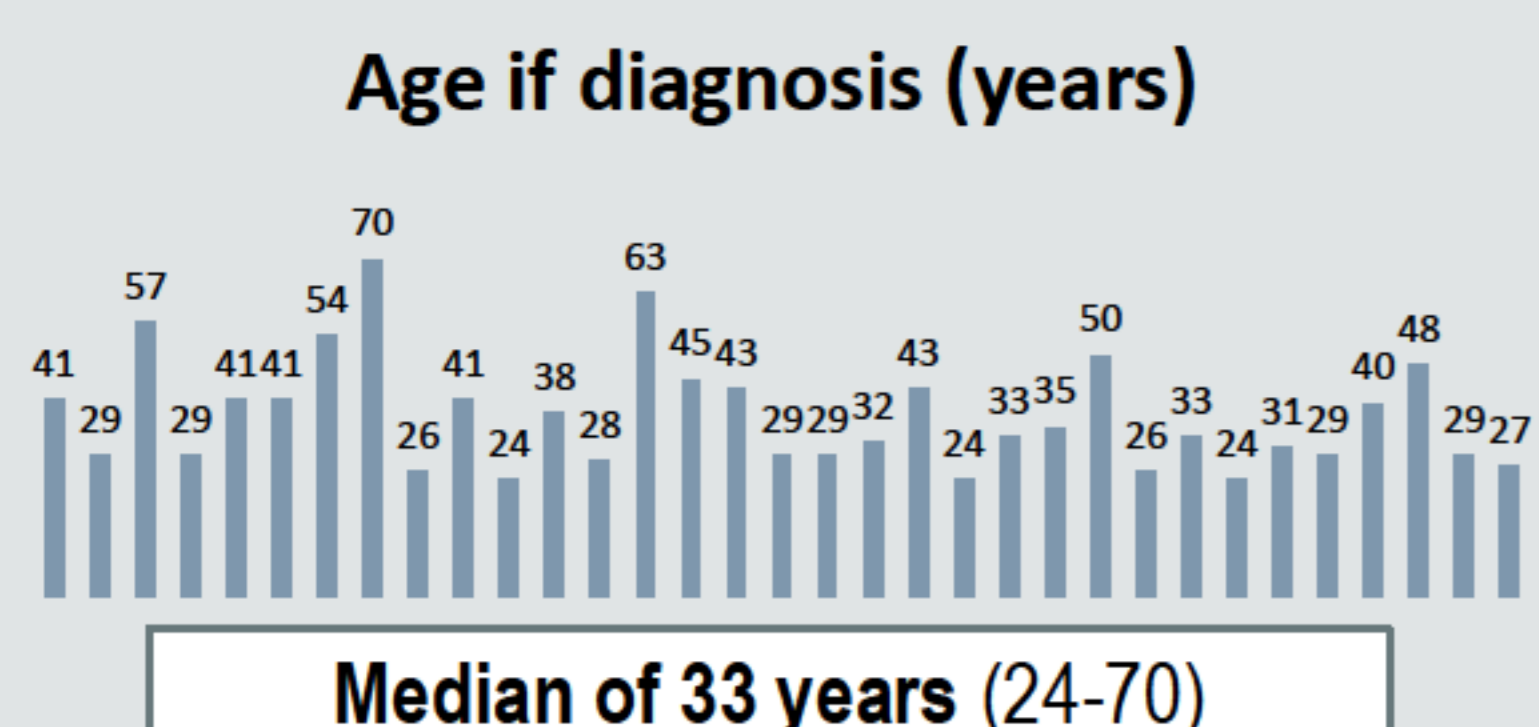
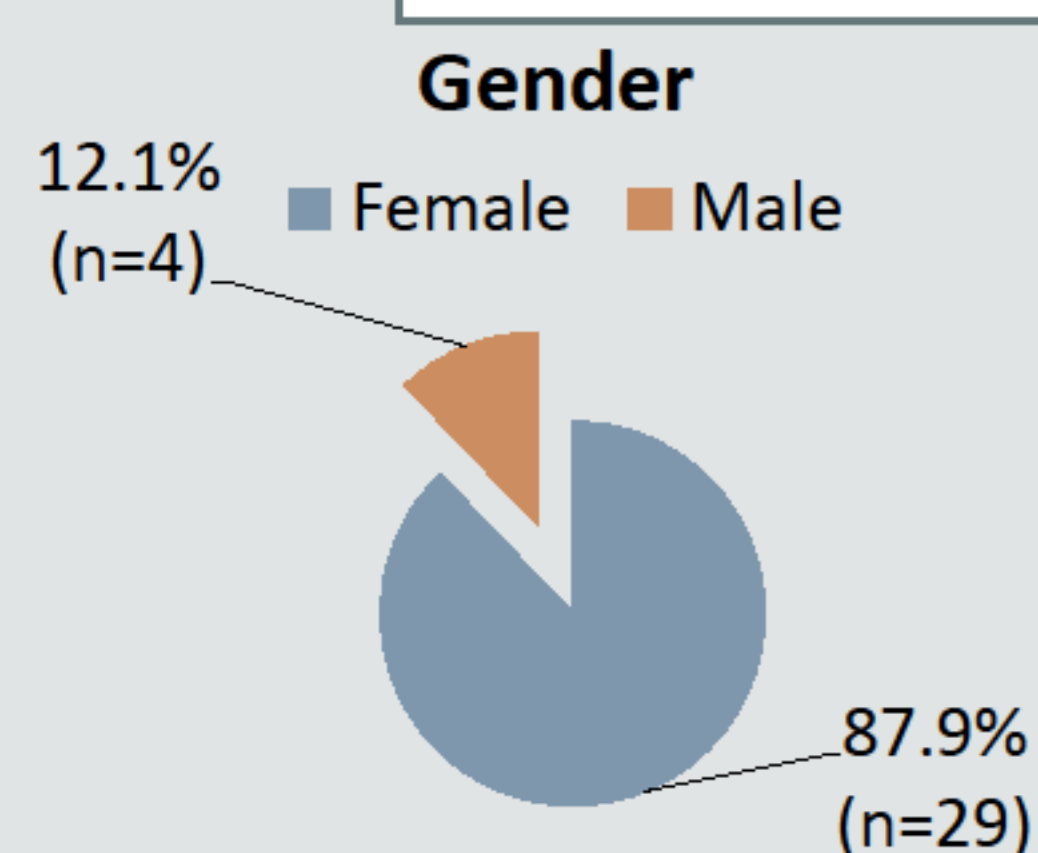
Evaluate the relationship between preoperative MRI adenoma visualization and TSS efficacy in patients with CD.

METHODS

- Retrospective cohort study of patients with CD followed in our centre between 1977 and 2013 (n=84)
- Patients who lost follow-up or with insufficient data on their personal records were excluded (n=51)
- Statistical analysis:** IBM SPSS®, version 21
 - Numerical variables: *Mann-Whitney U test*
 - Categorical variables: *Chi-Square test*

RESULTS

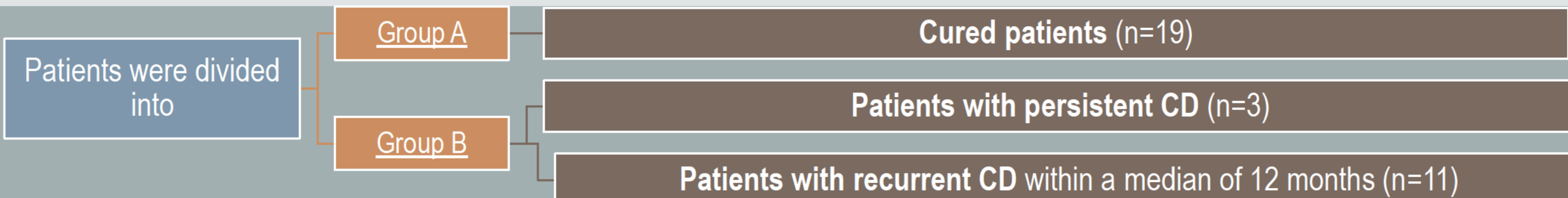
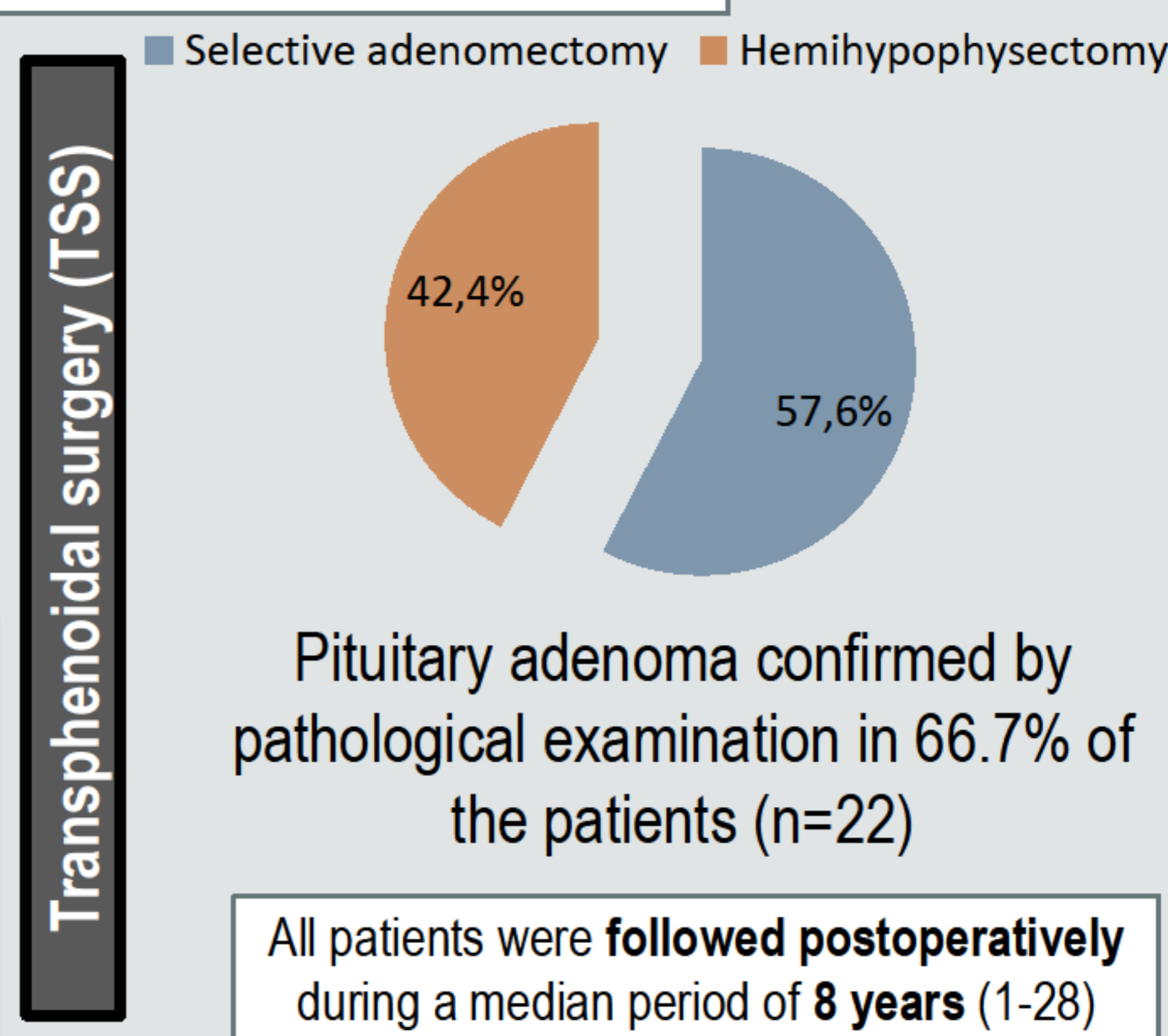
Thirty three patients with clinical and biochemical diagnosis of CD were included



Microadenoma	54.6% (n=18)
Macroadenoma	18.2% (n=6)
Invasive macroadenoma	9% (n=3)
Tumour size (mm)	10.3 ± 5.3
Non-diagnostic	18.2% (n=6)

All patients with non-diagnostic preoperative MRI performed an inferior petrosal sinus sampling (IPSS)

Identification of lateralization of ACTH secretion in 50% of the patients

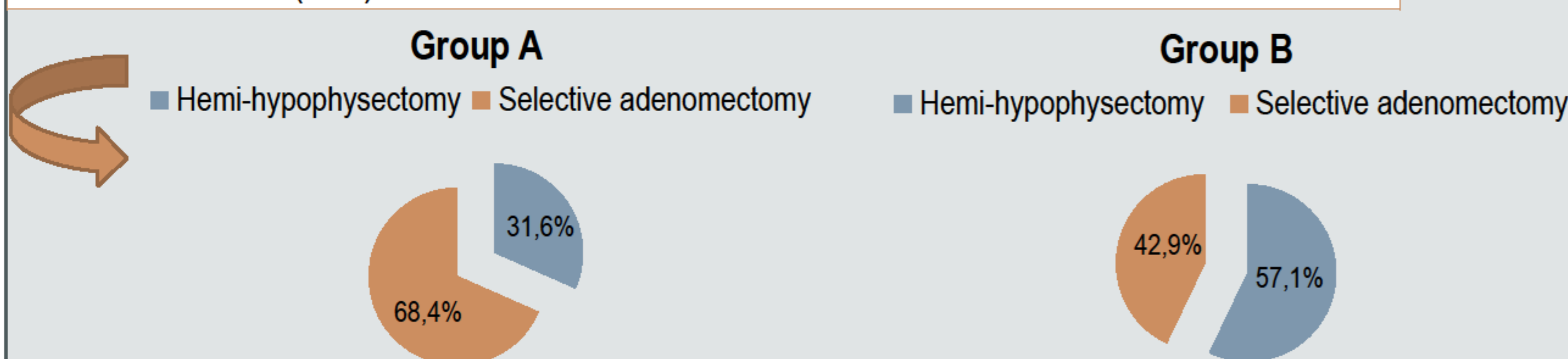


No significant demographic and clinical differences were recorded between groups

	Group A		Group B		P
	N	%	N	%	
Non diagnostic	2	10.5	4	28.6	0.18
Microadenoma	13	68.4	5	35.7	0.16
Macroadenoma	4	21.1	2	14.3	
Invasive macroadenoma	0	0	3	21.4	0.034
Tumour size (mm)	8.4 ± 3.1		13.9 ± 6.8		0.008

Identification of lateralization of ACTH secretion through IPSS in:

- All patients of Group A (2/2)
- One patient of Group B (1/4)



	Group A		Group B		P
	N	%	N	%	
Pituitary adenoma (confirmed by pathological examination)	15	84.2	7	50	0.034

CONCLUSION

Precise preoperative localization of a corticotroph adenoma in preoperative MRI can be associated with a greater efficacy of TSS and a higher probability of cure. Performance of IPSS can be useful in patients with non-diagnostic preoperative MRI enhancing a more appropriate surgical decision. The identification of a pituitary adenoma by pathological examination was more frequent in patients who became cured after surgical intervention.