Natural history of a large cohort of pituitary incidentalomas

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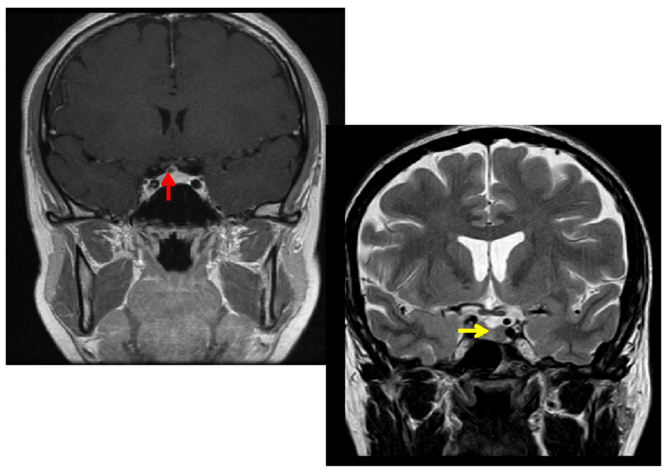
INTRODUCTION

The widespread use of sensitive neuroradiological imaging studies (i.e. computed tomography and magnetic resonance imaging) over the last decades resulted in an increased number of asymptomatic pituitary lesions diagnosed. The management of these so called "pituitary incidentalomas" is still controversial, due to the limited data so far available concerning both the clinical relevance and the natural history of such incidentally discovered pituitary masses.



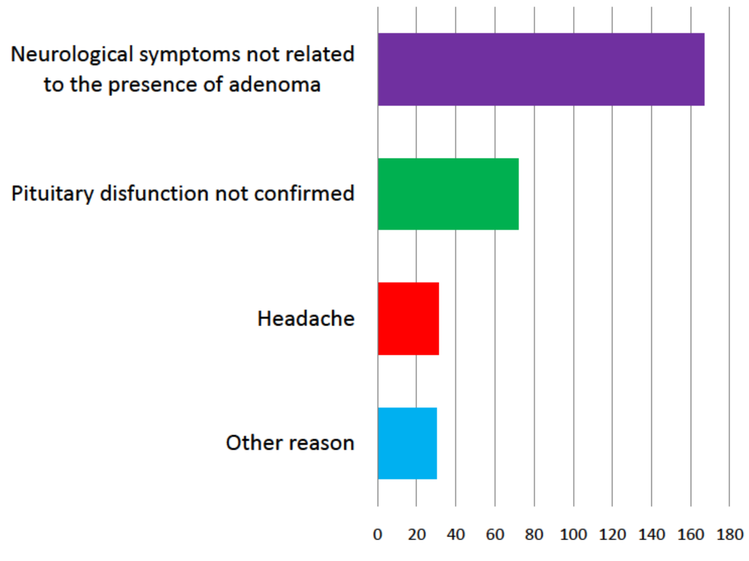
MATERIALS AND METHODS

The aim of this observational, retrospective, multicenter study was to analyze the clinical presentation and the natural history of a large cohort of patients affected by pituitary incidentaloma (300 patients) followed in two Italian tertiary referral centers.

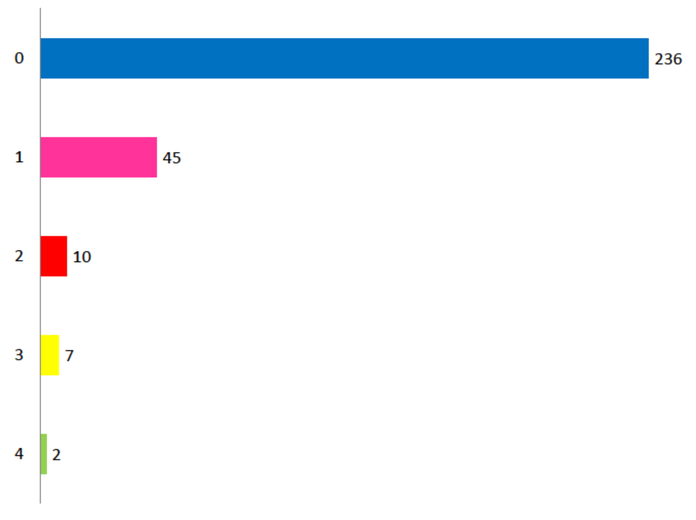
DIAGNOSIS

Population characteristics			
M / F (%)	105 (35 %) / 195 (65 %)		
Age	49,0 ± 17,8 y		
Age M vs. F	56,9 ± 17,4 y	44,7 ± 16,5 y	p < 0.001
Micro / macro (%)	167 (56 %) / 133 (44 %)		
M / F micro vs. marco (%)	26 (25 %) / 79 (75 %)	141 (72 %) / 54 (28 %)	p < 0.001
Mean diameter	10,6 ± 8,5 mm		
Pituitary deficiencies (%)	64 (21 %)		
Deficiency micro vs. macro (%)	17 (10 %)	47 (35 %)	p < 0.001

Reason for performing imaging



Endocrine disfunction ad diagnosis



FOLLOW UP

Hormonal follow up	
Patients	148
Median follow up (range)	3 y (0-27)
New pituitary deficiency (%)	11 (7 %)
Stability of function (%)	137 (93 %)

Imaging Follow up	
Patients	156
Median follow up (range)	3 y (0-32)
Growth (%)	27 (17 %)*
Stability (%)	104 (67 %)
Reduction (%)	25 (16 %)

Surgery	
Patients (%)	66 (30 %)
Surgical indication at diagnosis	58
Surgical indication during follow up	8
Median follow up (range)	2 y (0-8)

The incidence of new pituitary endocrine deficiencies was comparable in microadenomas and macroadenomas (7% vs 9%, respectively).

No spontaneous improvement of pituitary function has been observed.

Only a minority of patients with microadenomas (9.5%) experienced tumor growth. Conversely, in 33.3% of patients with macroincidentalomas a significant increase in tumor size has been demonstrated at MRI.

The radiological and biochemical changes were concordant only in 69 % of patients

The vast majority of patients who underwent surgery were macroincidentalomas (97 %).

8 patients underwent surgery during follow up due to the growth of incidentaloma.

CONCLUSION

In our series, macroadenomas are more frequently found in males, and more prone to volumetric growth over time. Pituitary function is altered in about 20% of patients at diagnosis, with further deficit onset during the follow up in about 7% of patients; these changes are not always concordant with radiological changes, remarking that, apart from radiological assessement, a periodical biochemical follow up is also needed in these patients.

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