

## Clinical features and natural history of clinically non-functioning pituitary incidentalomas

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**Objective:** To assess the clinical features of incidental clinically non-functioning pituitary adenoma (NFPA) and to analyze its natural history.

**Methods:** A multicenter retrospective study in patients with NFPA followed-up from 1992 to 2015 was performed.

**Results:** Fifty-seven patients were studied (29 women (50.9%); age 55.8±16.7 years. 43.9% were older than 60 years, 40.3% belonged to the age group of 40–60 years and 15.8% were younger than 40 years. Most patients ( $n=55$ , 96.5%) were diagnosed by magnetic resonance imaging (MRI). 71.9% ( $n=41$ ) were macroadenomas; 2 of them (3.5%) were giant adenomas ( $\geq 4$  cm). Patients with macroadenomas were older than those with microadenomas (59.5±16.7 vs 46.4±18.1 years,  $P=0.007$ ). Microadenomas were more common in women (41.3 vs 14.3%,  $P=0.023$ ). About half of them ( $n=28$ ; 49.1%) showed suprasellar extension; of these, 19 (33.3%) were accompanied by chiasmatic compression. Invasion of the cavernous sinuses was present in 28.1% ( $n=16$ ). Hypopituitarism was present in 14 (24.6%) patients. Twenty-four patients (42.1%) underwent surgery. Twenty-six non-operated patients were evaluated after a median follow-up of 15.5 months (interquartile range, 5.7–32.7). No significant changes were found in the maximum tumor diameter at the end of follow-up (1.2±0.6 vs 1.2±0.7 cm; NS). The majority of NFPA evaluated ( $n=23$ , 88.5%) did not show any changes in size. In two cases (7.7%) tumor size decreased and in one patient (3.8%) increased.

**Conclusion:** Incidental NFPA is diagnosed by MRI preferably from the 5th decade of life without sex predilection. Most of them are macroadenomas, more commonly diagnosed in men and at an older age, compared to microadenomas. The suprasellar extension with chiasmatic compression and hypopituitarism are frequent at diagnosis. Most of the non-operated NFPA remain with stable tumor size over time, being growth an unusual event.