Thus, silent corticotroph adenomas are histologically indistinguishable from the functioning ones, which are clinically associated either with Cushing’s disease or Nelson’s syndrome. Therefore, the differential diagnosis is based on clinical information alone. The only histological sign indicating that a corticotroph adenoma is silent is the absence of Crooke’s cells in the nontumorous corticotroph cells when adenohypophysial tissue fragments are included in the sample. Crooke’s hyaline changes represent deposits of cytokeratin intermediate filaments in the cytoplasm of corticotroph cells showing a characteristic glassy appearance. It is thought to represent a functioning response to the elevated serum cortisol levels, which is reversible. Reversibility of Crooke’s hyaline change after discontinuation of treatment with corticosteroids has been observed in autopsy studies.

By electron microscopy, functioning and silent type 1 corticotroph adenomas show identical morphologic features, including the presence of cytokeratin intermediate filaments type 1, which represent their diagnostic hallmark. In contrast, silent type 2 adenomas are different and unlike, silent type 1 tumors, they are devoid of microfilaments type 1. Unfortunately, no other specific marker is available so far to differentiate the silent from the functioning subgroup of corticotroph adenomas.

A previous study of galectin mRNA by RT-PCR

![Figure 4](image-url) Distribution of expression of Gal-3 in functioning and silent corticotroph adenomas.