

THE OUTCOMES OF THE TRANSSPHEOIDAL ADENOMECTOMY IN PATIENTS WITH ACROMEALY

A. Tsiberkin, V. Cherebillo, U. Tsoy, A. Dalmatova, L. Belousova, E. Grineva

Federal Almazov North-West Medical Research Centre, St. Petersburg, Russia

INTRODUCTION

- Acromegaly is a chronic disorder caused by growth hormone (GH) hyperproduction which leads to significant morbidity and mortality primarily due to cardiovascular and respiratory complications.
- Pituitary adenoma is the main cause of GH's hyperproduction.
- By current guidelines transsphenoidal surgery (TSS) is the first-line treatment in acromegaly patients.

OBJECTIVES

To evaluate the results of TSS in acromegaly patients 6 months after surgery

METHODS

- A total of 70 patients were enrolled into the study
- Majority of our patients (74%) had macroadenomas, only sixteen patients (26%) had microadenomas.
- All TSS were performed by one neurosurgeon
- 6 months after surgery a nadir serum GH within 2 hours after 75g of oral glucose and IGF-1 were estimated
- Remission of acromegaly was considered as*:
 - ✓ nadir serum GH below 0.4 µg/L after an oral glucose load and
 - ✓ age-normalized serum IGF-1 value

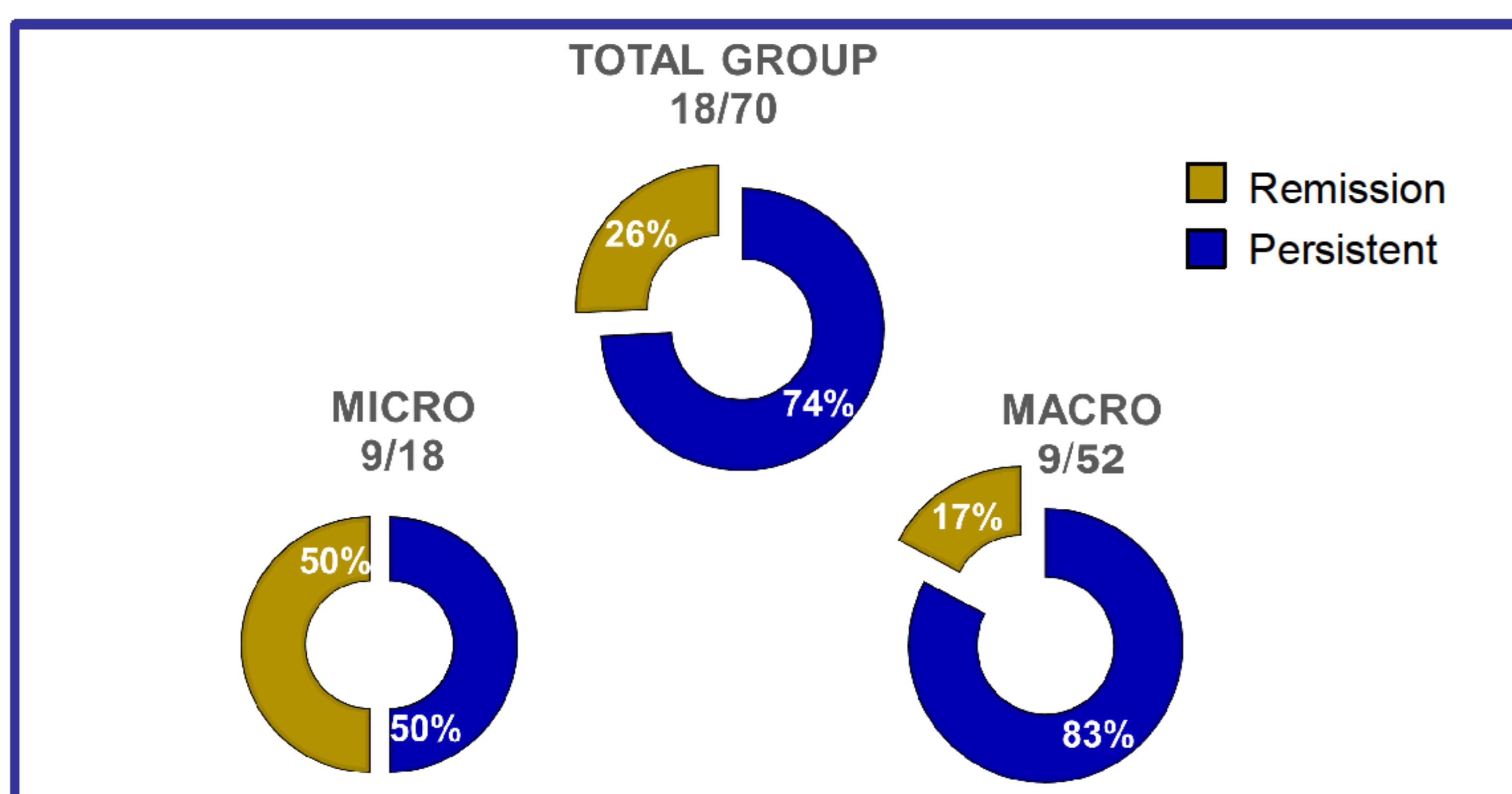
Patient Characteristics

	Mean ± SD	min – max
Age, yr	50.3 ± 12.5	25 – 72
Duration of disease, yr	6.6 ± 3.2	3 – 15
Basal GH's level, µg/L	34.2 ± 41.7	1.2 – 192.0
IGF-1 _{patient} /IGF-1 _{ULN} ratio	3.3 ± 1.4	1.01 – 7.3
Size of pituitary adenomas, mm	16.7 ± 8.6	4.3 – 46.0

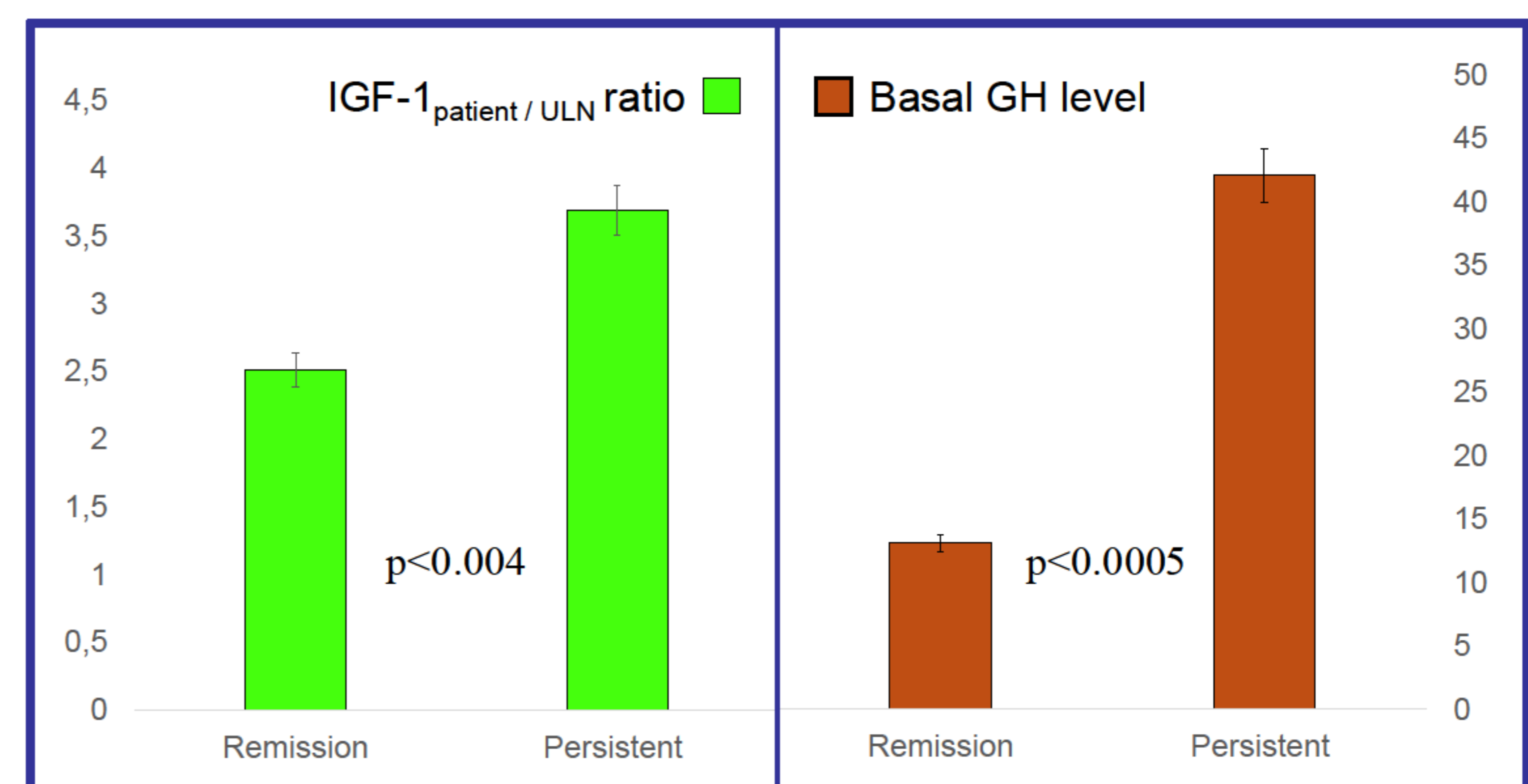
RESULTS

- Acromegaly remission was confirmed in 18 (26%) patients
- Remission was established in 50% (9 out of 18) patients with the pituitary microadenomas. Among patients with macroadenomas remission was proved in 17% (9 out of 52) cases
- Patients with the persisting disease have demonstrated significantly higher initial basal GH level (42.1 ± 6.7 vs 13.1 ± 4.9 µg/L, $p < 0.0005$) and higher initial IGF-1_{patient}/IGF-1_{ULN} ratio (3.59 ± 0.22 vs 2.51 ± 0.20 , $p < 0.004$)

Remission rates



Initial IGF-1_{patient} / ULN ratio and basal GH level



CONCLUSIONS

- According to our data TSS was effective in 26% cases
- The rather low remission rate was associated with macroadenomas predominance in our study group
- Microadenoma presence, lower initial basal GH level and IGF-1_{patient}/IGF-1_{ULN} ratio increased the probability of remission

*Giustina A, et al. A consensus on criteria for cure of acromegaly. J Clin Endocrinol Metab. 010 Jul;95(7):3141-8.