Predictive factors of surgical outcomes in acromegaly: what’s new in 2016?

1Fédération d’Endocrinologie, Groupement Hospitalier Est, Hospices Civils de Lyon, Lyon, France; 2Department of Pathology and Neuroradiology, Groupement Hospitalier Est, Bron, France; 3Service de Biostatistiques, Hospices Civils de Lyon, Lyon, France; 4Department of Histology, University of Medicine and Pharmacy, Tirgu Mures 540139, Romania; 5Département de Neurochirurgie B, Hôpital Neurologique Pierre Wertheimer, Groupement Hospitalier Est, Hospices Civils de Lyon, Lyon, France.

INTRODUCTION
In the era of personalized patient management in acromegaly, transsphenoidal surgery remains the only curative treatment with fast normalization of IGF-1 level. However, patient selection is difficult for achieving satisfactory outcomes.

OBJECTIVES
1. To evaluate predictors of surgical outcome in acromegaly in order to better select patients potentially cured by surgery.
2. To compare immunohistochemical tumor profiles of patients in remission vs. active disease.

PATIENTS AND METHODS
A single-institution retrospective study from 2009 to 2015 was performed. From a cohort of 79 acromegalic patients operated by a single operator, 63 patients with complete pre- and postoperative work-up, pathological analysis, including prognostic clinicopathological classification (J. Trouillas et al.) and T2 preoperative magnetic resonance imaging (MRI) were included.

RESULTS
Three month after surgery, remission rate defined by IGF-1 normalization and/or nadir GH/oral glucose tolerance test < 1.2 mUI/l, was 50.8 %. In univariate analysis, sex, age at surgery, preoperative IGF-1, basal GH concentration or nadir GH/OGTT levels were not predictive of poor outcomes.

For pathological assessment, grade 2a and 2b tumors were predictive of surgical failure (p=0.009), but histological characteristics (granulation pattern, tumor subtype [GH or GH/PRL tumor], sstr2 and sstr5 expression) did not differ between groups with or without remission.

CONCLUSION
This study confirms that intracavernous invasion and tumor size in MRI seem to be the strongest parameters to predict surgical outcomes. As regards histological characteristics, tumors of patients with surgical remission do not appear to differ from tumors of uncured patients.

References