

Somatostatin analogues effectiveness in non-functioning pituitary adenomas in comparison to acromegaly

Jolanta Kunert-Radek¹, Natalia Zawada¹, Marek Pawlikowski²,
Hanna Pisarek³, Maciej Radek⁴

¹Department of Clinical Endocrinology, ²Department of Immunoendocrinology, ³Department of Neuroendocrinology,
⁴Department of Neurosurgery & Peripheral Nerves Surgery
Medical University of Lodz

Introduction

Somatostatin analogues (SSA) have been used for many years in the treatment of somatotropinomas and thyrotropinomas. Recently some publications focus on the use of these drugs in the therapy of clinically non-functioning pituitary adenomas (NFPA):

- in recurrent tumors after incomplete surgical resections of invasive adenomas
- in primary adenomas in a case of patient's disagreement for operation or in situation of some medical contraindications for surgery.

Aim of the study:

The assessment of SSA treatment in patients with NFPA in comparison to patients with acromegaly.

Material & methods

62 patients treated in The Department of Clinical Endocrinology of Medical University of Lodz:

Acromegaly: 40 patients (28 women and 12 men, aged 29-73), 24 patients with primary adenomas,

16 - with secondary tumors, treated with SSA from 6 months to 10 years;

10 patients with additional dopamine agonist therapy

NFPA: 22 patients (13 women and 9 men, aged 24-77 lat), 5 patients with primary adenomas,

17 - with secondary tumors (8 patients – operated once, 9 patients – after several operations), treated with SSA from 6 months to 10 years;

13 patients with additional dopamine agonist therapy

Somatostatin receptor scintigraphy was performed in every patient with NFPA. High density of SSTR2 in the tumor - a mandatory condition for SSA therapy introduction (Fig. 1). SSTR subtypes were also assessed in immunohistochemistry of surgically removed tumor tissue (Fig. 2).

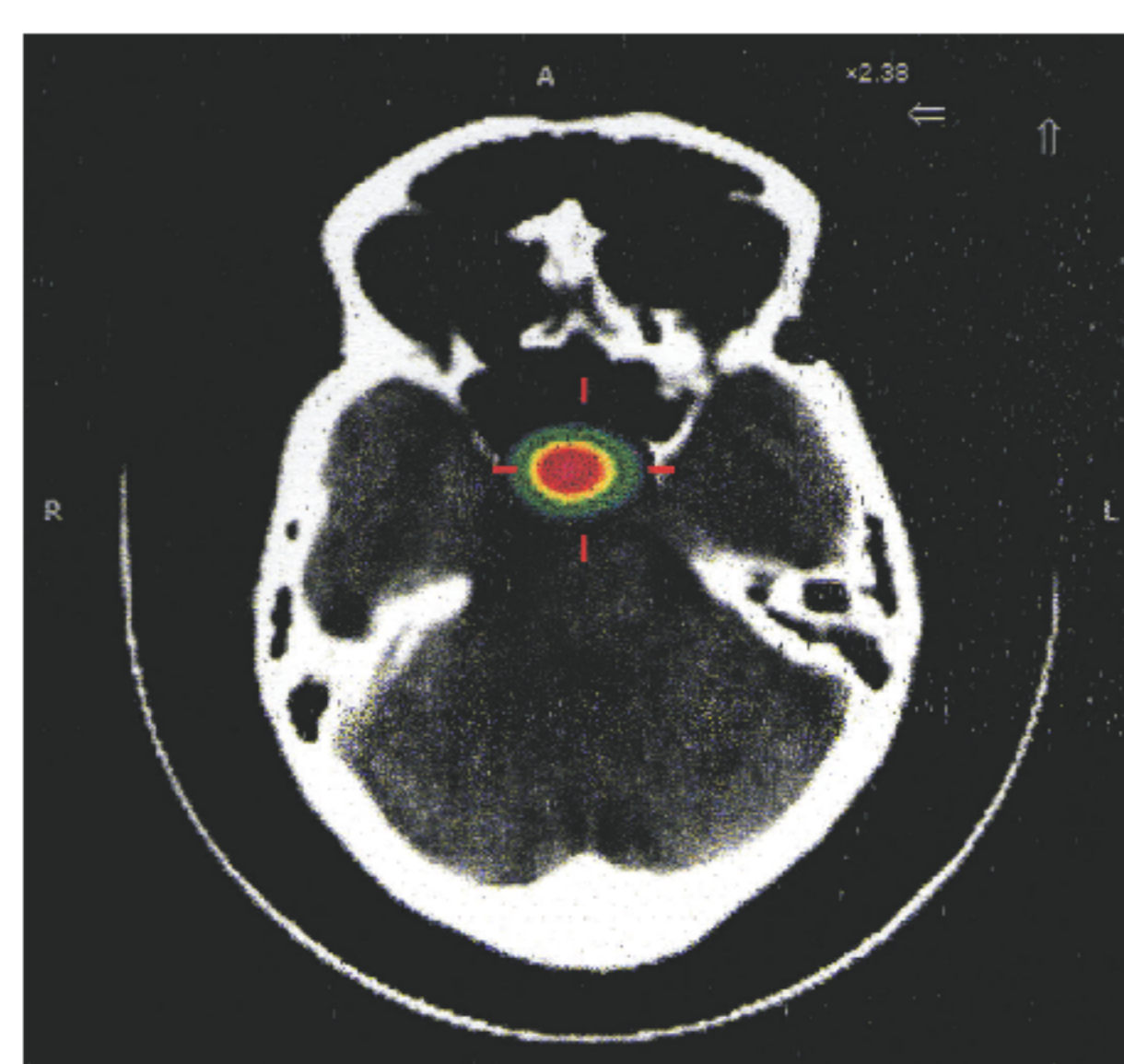


Fig. 1. Somatostatin receptor scintigraphy (SSTR 2) in patient with NFPA

Results

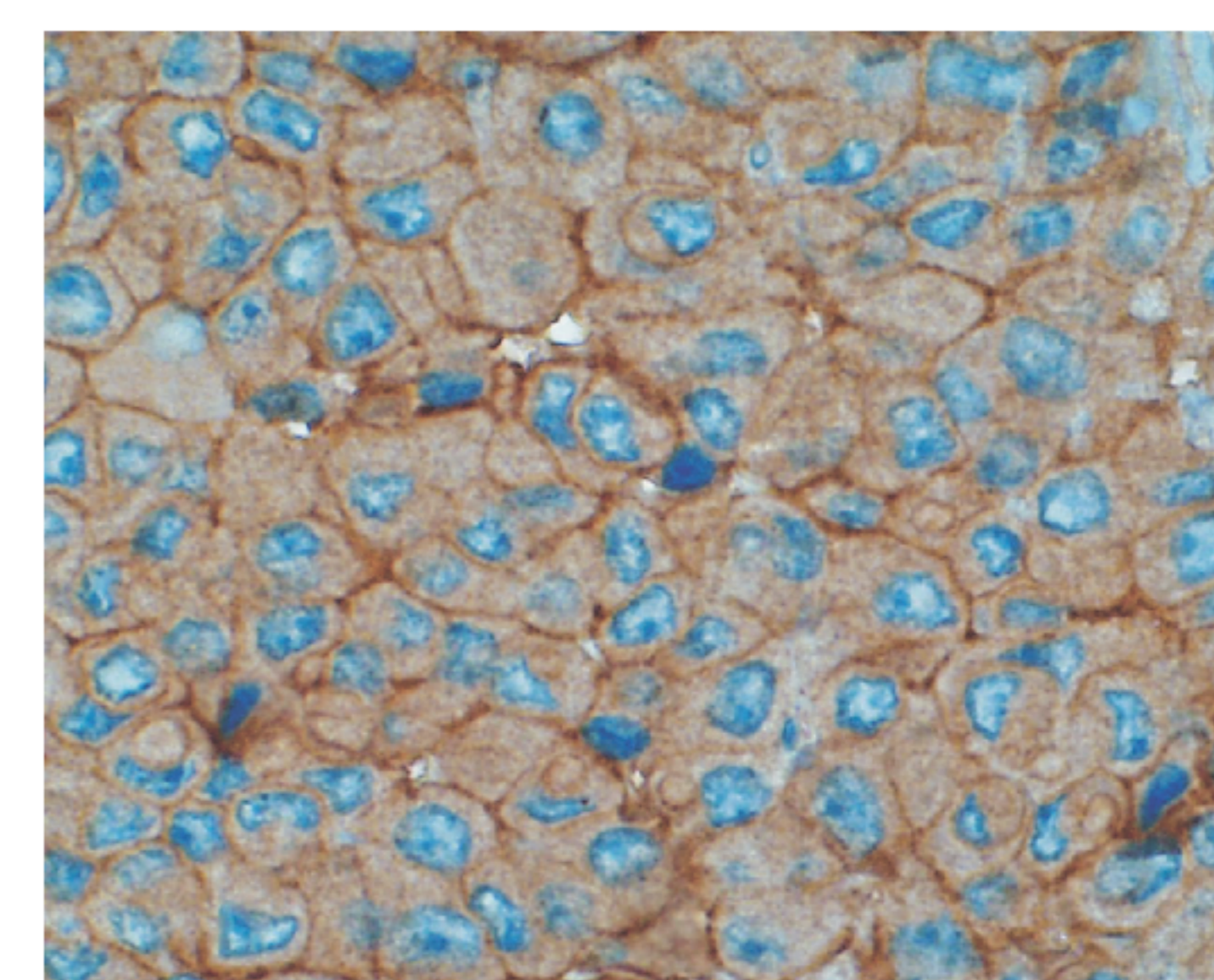


Fig. 2. Immunohistochemistry of SSTR 2A (membrane localization) in NFPA

Assessed parameters	Acromegaly	NFPA
HGH & IGF-1	↓95% (50% normalization)	-
↓ tumor size ≥ 20%	40% (81.25% primary tumors)	9% (only in recurrent tumors)
tumor size stabilization	52.5%	68%
↑ tumor size with indication to neurosurgical treatment	7.5%	23%
side effects	7.5% symptomatic cholelithiasis → cholecystectomy	-
improvement of quality of life	> 95%	about 40%

Conclusions:

1. Somatostatin analogues are effective in the treatment of acromegaly, also in cases of primary tumors.
2. The effectiveness of somatostatin analogues therapy in patients with NFPA is lower in comparison to acromegalic ones.
3. In most cases of NFPA pharmacotherapy with somatostatin analogues lead to stabilization of tumor size and can be an alternative for next neurosurgeries of recurrent invasive adenomas.

