

# The role of octreotide LAR treatment on body mass index in patients with acromegaly

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## Objectives

It is known that the obesity and insulin resistance are an integral part of acromegaly.

The aim of study was to evaluate the role of octreotide LAR treatment on body mass index (BMI) in patients with acromegaly.

## Methods

Sixteen patients with acromegaly diagnosed at Endocrinology Clinic in Sarajevo (10 females and 6 males, mean age  $53.4 \pm 6.3$  years, age range 38-65 years, 6 patients with microadenoma and 10 patients with macroadenoma) were treated with octreotide.

Follow-up period was 3 years (2009-2013). Nine patients were treated with surgical and octreotide treatment. One patient was treated with surgical, octreotide and gamma-knife treatment and six patients were treated only with octreotide LAR.

Five patients were diabetics. Anthropometric measurements [including height, weight, BMI and waist], concentration of human Growth Hormone (hGH), Insulin-Like Growth Factor I (IGF-1), CRP, blood glucose, basal insulin and lipid profile were evaluated before treatment and every 6 months during follow-up period of 3 years, while magnetic resonance imaging (MRI) was taken before the treatment and every year during treatment.

Thirteen patients received octreotide 30 mg/28 days, one patient received 20 mg and other two 60 mg/28 days.

## Results

Table 1. The level of HGH, IGF-1, size of pituitary adenomas, CRP, basal insulin and cholesterol before and after 36 months of Sandostatin LAR treatment

	HGH (ng/ml)	IGF-1 (ng/ml)	Size of adenoma (mm)	CRP (mg/l)	Basal insulin (pmol/l)	Cholesterol (mmol/l)
Before treatment	50,13	753,66	9,5	4,56	168	6,9
After 36 months treatment	2,11	337,33	7,2	2,34	154	6,4
Reduction	-48,02	-416,33	-2,3	-2,22	-14	-0,5

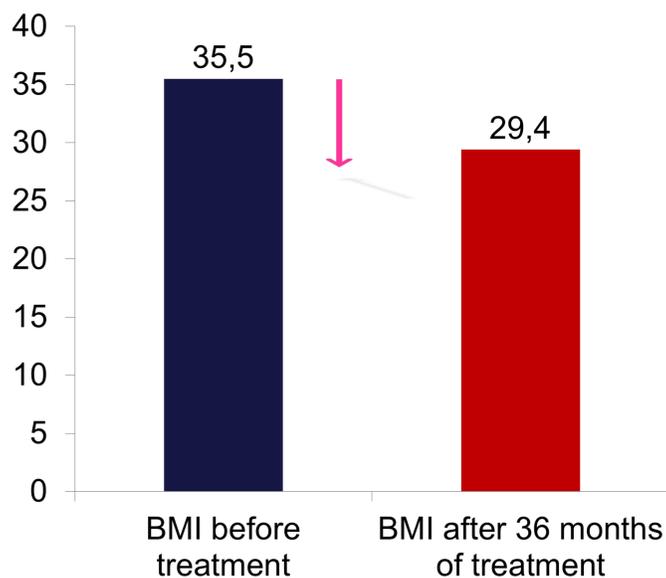


Figure 1. The effects of Sandostatin LAR on BMI after 36 months of treatment

Octreotide LAR significantly reduced GH ( $50.13 \pm 22.44$  vs  $2.11 \pm 0.56$  ng/ml), IGF-1 ( $749.54 \pm 112.48$  vs  $337.33 \pm 83.54$  ng/ml), adenoma size and CRP ( $4.56 \pm 1.34$  vs  $2.34 \pm 1.01$  mg/l) and non-significantly reduced level of basal insulin and cholesterol.

During follow-up period octreotide LAR treatment significantly reduced dosage of exogenous insulin at diabetics (-43%).

Regression analyses showed inverse association of octreotide treatment and BMI ( $B -0.502$ ;  $p=0,000$ ).

## Conclusions

Treatment with octreotide LAR in acromegaly significantly reduced BMI, GH, IGF-1 and CRP.

As well this treatment reduced dosage of exogenous insulin at acromegalic patients with diabetes.

## References

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