

# Preoperative octreotide treatment of acromegaly – long-term results of a randomized, controlled study

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## BACKGROUND

Early postoperative results from the Preoperative Octreotide Treatment of Acromegaly (POTA) study has been published previously (1), and like later randomized studies we demonstrated a beneficial effect of presurgical treatment with somatostatin analogues (SSA) in GH-secreting macroadenomas when evaluated 3-4 months postoperatively.

However, concerns about a potential lingering effect of SSA and thereby potential false positive results have been raised.

## OBJECTIVE

The objective of this study was to evaluate the effect of SSA pretreatment on the long-term surgical cure rates.

## METHODS

Newly diagnosed patients were randomized to either 6 months preoperative treatment with octreotide LAR (n=32) or to direct surgery (n=30). Of them, 51 (26/25) had macroadenomas. The patients were evaluated one and five years postoperatively. Cure was defined as a normal IGF-1 level alone or combined with nadir GH < 2 mU/L during an oral glucose tolerance test.

All patients that had received additional acromegaly treatment were considered not cured.

## RESULTS

The proportion of patients receiving postoperative acromegaly treatment was equal in the two groups both one (Table 1) and five years postoperatively.

	Preoperative SSA (n=31)	Direct surgery (n=30)
Medical therapy (N)	8	5
SSA	6	3
Pegvisomant	1	1
SSA + cabergoline	1	1
Radiation therapy (N)	1	4
Repeated surgery (N)	1	2
Total (N)	8	9

Table 1. Additional treatment for acromegaly until one year postoperative

## RESULTS cont.

One year postoperative, when using the combined criteria for cure, 32 % of all adenomas and 38 % of macroadenomas were cured in the pretreatment group compared to 27 % and 24 % in the direct surgery group, respectively (Table 2). There was no significant difference between the treatment groups.

Treatment group	According to IGF-1					According to IGF-1 and GH				
	N	Cured	Not cured	Cure %	p-value	N	Cured	Not cured	Cure %	p-value
All										
Pretreatment	31	12	19	39	0.87	31	10	21	32	0.63
Direct surgery	30	11	19	37		30	8	22	27	
Microadenomas										
Pretreatment	5	0	5	0	0.17	5	0	5	0	0.44
Direct surgery	5	3	2	60		5	2	3	40	
Macroadenomas										
Pretreatment	26	12	14	46	0.30	26	10	16	38	0.27
Direct surgery	25	8	17	32		25	6	19	24	

Table 2. Cure rates at 1 year postoperative

Five years following operation, the cure rate in the pretreatment group was 41 % in total and 40 % in macroadenomas, versus 31 % and 27 % in the direct surgery group, respectively (Table 3). There was no significant difference between the treatment groups.

Treatment group	According to IGF-1					According to IGF-1 and GH				
	N	Cured	Not cured	Cure %	p-value	N	Cured	Not cured	Cure %	p-value
All										
Pretreatment	28	12	16	43	0.79	27	11	16	41	0.45
Direct surgery	28	11	17	39		26	8	18	31	
Microadenomas										
Pretreatment	5	2	3	40	1.0	5	2	3	40	1.0
Direct surgery	5	3	2	60		4	2	2	50	
Macroadenomas										
Pretreatment	23	10	13	43	0.55	22	9	13	41	0.34
Direct surgery	23	8	15	34		22	6	16	27	

Table 3. Cure rates at 5 years postoperative

## CONCLUSION

These long-term data from the POTA study does not prove a beneficial effect of SSA presurgical treatment.

However, in absolute numbers and in accordance with 3 months postoperative data from the POTA study, an approximately 50 % increase in cure rate is found for macroadenomas. Accordingly, we can not exclude that this is due to lack of power.

1. Carlsen SM et al, JCEM 2008