

Treatment Patterns Among US Acromegaly Patients in a Prospective Registry

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BACKGROUND

- Acromegaly is caused by excessive growth hormone (GH) secretion, which stimulates insulin-like growth factor (IGF)-I production predominantly in the liver.¹⁻³
- The goal of therapy is to reduce GH/IGF-I levels to normal or near normal levels.^{4, 5}
- Surgery is typically the first-line therapy, followed by pharmacotherapy^{4,5} but data on real-world acromegaly treatment patterns in the United States are limited.

OBJECTIVE

- To describe treatment patterns among patients with acromegaly.

METHODS

Study Design and Setting

- This was a retrospective cohort study using data from a prospective acromegaly patient registry at the Cedars-Sinai Medical Center Pituitary Center (CSMC-PC), which was started in 1985.
- This study was approved by the CSMC-PC institutional review board.

Study Population

- The study was not limited to patients initially diagnosed or treated at CSMC-PC. Patients were entered into the registry if they had received treatment for acromegaly at CSMC-PC at any time after 1985 and had provided informed consent.

Study Measures

- Baseline measures were assessed from the first lab test to 6 months from that date.
- A treatment course (from first date of a specific therapy until a different therapy) was defined for each patient (indicating a treatment change).
 - Therapies were: pituitary surgery, radiation, pharmacotherapy (octreotide LAR, octreotide SA, lanreotide, cabergoline, bromocriptine, pegvisomant).
- Medications ≤6 months prior to surgery were ignored, classifying surgery as initial therapy.
- Octreotide SA use ≤30 days before octreotide LAR or lanreotide was also ignored.
- Simultaneous multiple medication use (>90 days) was defined as combination therapy.
- Treatment measures assessed:
 - Distribution of first and second-line therapy.
 - Distribution of second-line therapy, by first-line therapy.
 - Time from first to second-line therapy, by type of therapy.
 - Treatment changing behavior after first and second-line therapy (stop, continue, or change), by therapy type.

Statistical Analysis

- All statistical analyses were performed using SAS® version 9.4 (SAS Institute, Cary, NC).

RESULTS

Baseline Characteristics

- 121 patients were included in this study.
- Mean age was 55.4 years, 55.4% were female and 72.7% were Caucasian.
- 76.9% had a macroadenoma.
- Mean age at diagnosis was 42.4 years and patients were followed for a mean of 8.8 years

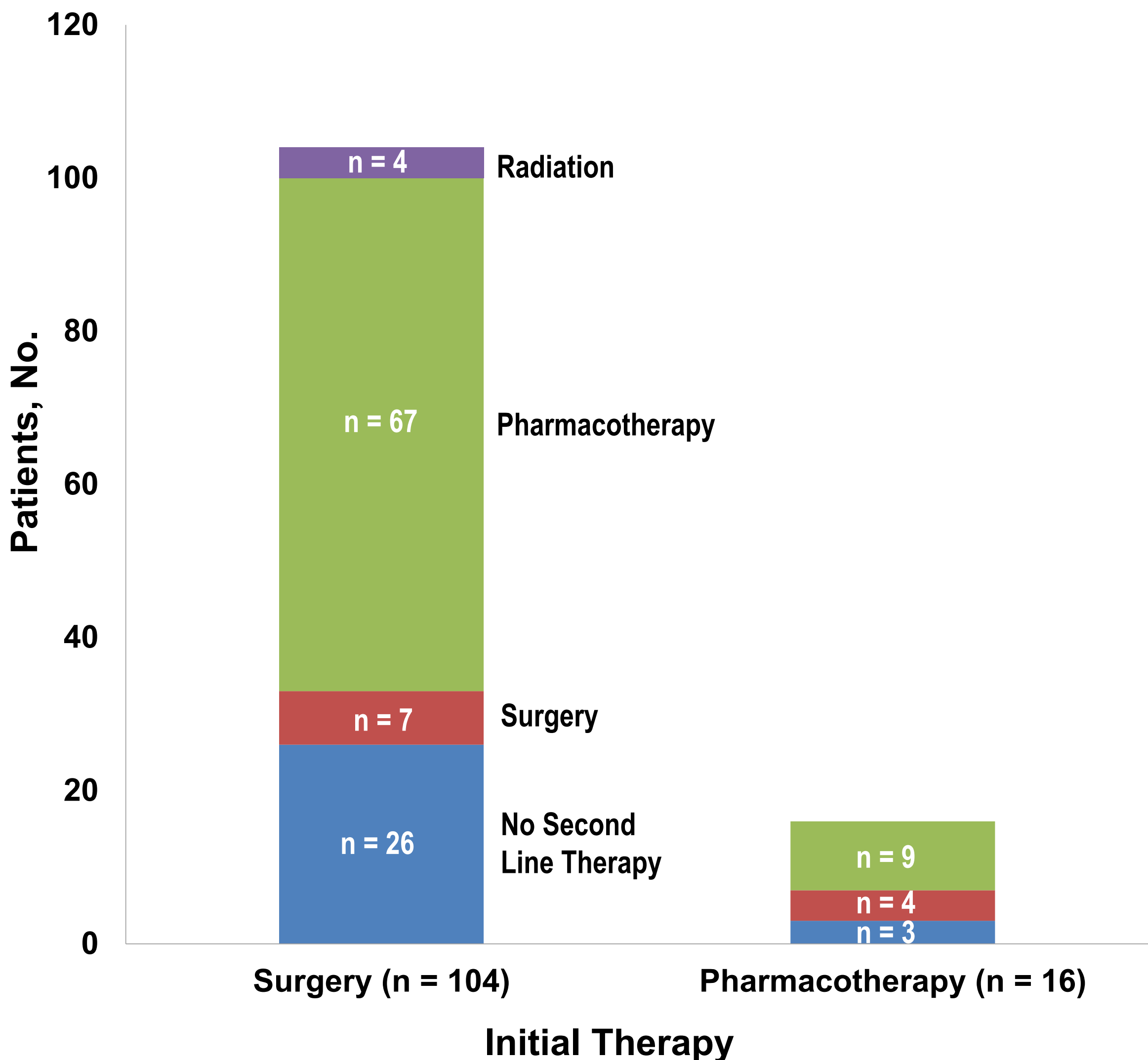
Baseline Patient Characteristics	All, N = 121
Age, mean (SD)	55.4 (16.7)
Age at diagnosis, ^a mean (SD)	42.4 (15.0)
Female, n (%)	67 (55.4)
Race/ethnicity, n (%)	
Caucasian	88 (72.7)
Asian	16 (13.2)
Hispanic	12 (9.9)
Other	12 (9.9)
Years of follow-up, ^b mean (SD)	8.8 (7.2)

^a 109 patients had information about age at diagnosis; ^b Period between the 1st and last IGF-I/GH date.

Subsequent Therapeutic Intervention After Initial Therapy

Initial and Subsequent Therapy

- Initial therapy was surgery in 104 patients (86%), pharmacotherapy in 16 (13%), and radiation in 1 (1%).
- Of the 104 with initial surgery, 78 (75%) had further therapy:
 - 19 (24.4%) had subsequent octreotide LAR
 - 24 (30.8%) octreotide SA
 - 5 (6.4%) lanreotide
 - 4 (5.1%) cabergoline
 - 15 (19.2) bromocriptine
- Of 16 on initial pharmacotherapy, 13 (81%) had further treatment (2 had subsequent octreotide LAR, 1 octreotide SA, 4 lanreotide, 1 bromocriptine, and 1 combination pharmacotherapy).
- The one patient that had initial radiotherapy had subsequent cabergoline.

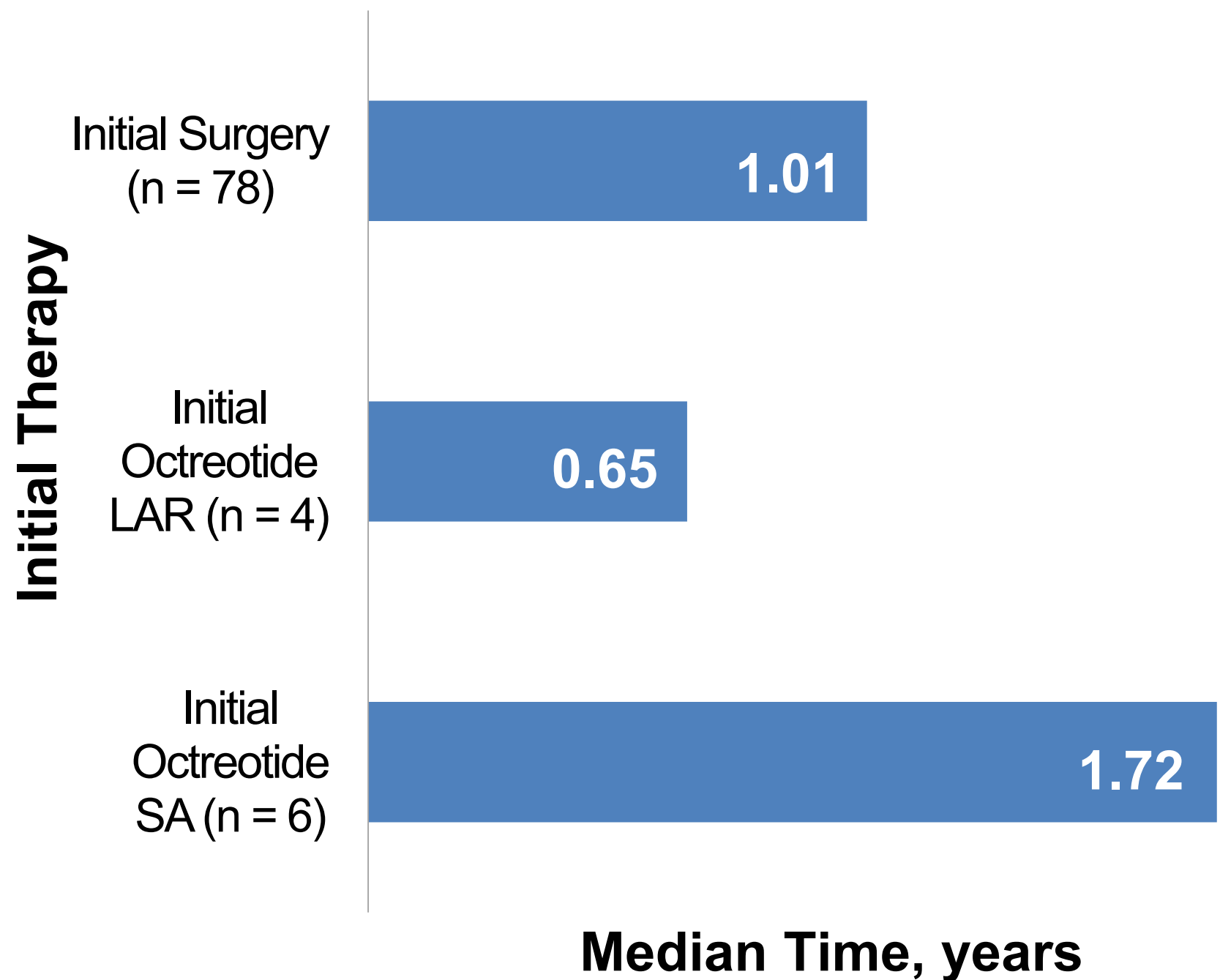


Time to Second-Line Therapy

- In 78 first-line surgical patients, median time to second-line therapy (86% of which was pharmacotherapy) was 1.01 years.
 - 28 patients required a second treatment within the first 6 months and 38 within the first year.
- In 13 patients initially on pharmacotherapy, median time to subsequent therapy was:
 - 0.65 years in octreotide LAR patients
 - 1.72 years in octreotide SA patients
 - 3.75 years in cabergoline patients
 - 9.30 years in bromocriptine patients

- A single first-line radiotherapy patient was treated with cabergoline after 42 years.

Median Time to Second Line-Therapy Among Patients Requiring Second-Line Therapy



LIMITATIONS

- Many patients were initially treated elsewhere before referral to CSMC-PC. Results therefore reflect care from a variety of providers and may have been incompletely documented.
- Institutional variation may limit the generalizability of these findings.
- Small numbers make statistical comparisons impossible.

CONCLUSIONS

- Second-line therapy largely comprised medical treatment with somatostatin receptor ligands (octreotide SA or LAR or lanreotide) .
- While short-term postoperative remission rates are high, many patients require second-line therapy years after initial surgery, further supporting the need for long-term biochemical surveillance in acromegaly to detect disease recurrence.

References

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