



CASE 2: ACROMEGALY

THE FIRST CHOICE TREATMENT

Dr. Cristina Olarescu, MD, PhD

Oslo University Hospital & University of Oslo, Norway

♀, 51 YEARS OLD, TEACHER

Clinical complains

- Enlargement of the hands and feet (↑4-5 size number)
- Coarsening of the facial features, acne
- Teeth disease (prognatism and widely spaced teeth)
- Joint pain
- Increased sweating
- Heat intolerance
- Fatigue
- Lack of menses (1,5 years)
- Weight gain
- Sleep disorder

Family history - no

Past medical history

- 2003- Arthritis
- 2006- Surgery for carpal tunnel compression
- High blood pressure

Physical examination

- clinical features of acromegaly

TESTS RESULTS

Laboratory results

- Fasting glucose: **7,9** mmol/l
- HbA1c: **7,8** %
- Phosphate: **1,6** mmol/l
- ACTH: **9,4** pmol/l
- Cortisol (08.00): **201** nmol/l (347)
- Prolactin: **1208** mU/l
- TSH: **0,87** mU/l
- fT4: **10** pmol/l
- FSH: **4** U/l
- LH: **2,3** U/l
- Østradiol: **< 0,04** nmol/l
- GH*: **56** ug/l
- IGF-1: **195** nmol/l (11-40)

*conversion factor for GH 1ng/ml= 3mUI/l

Echocardiography - normal

DXA:

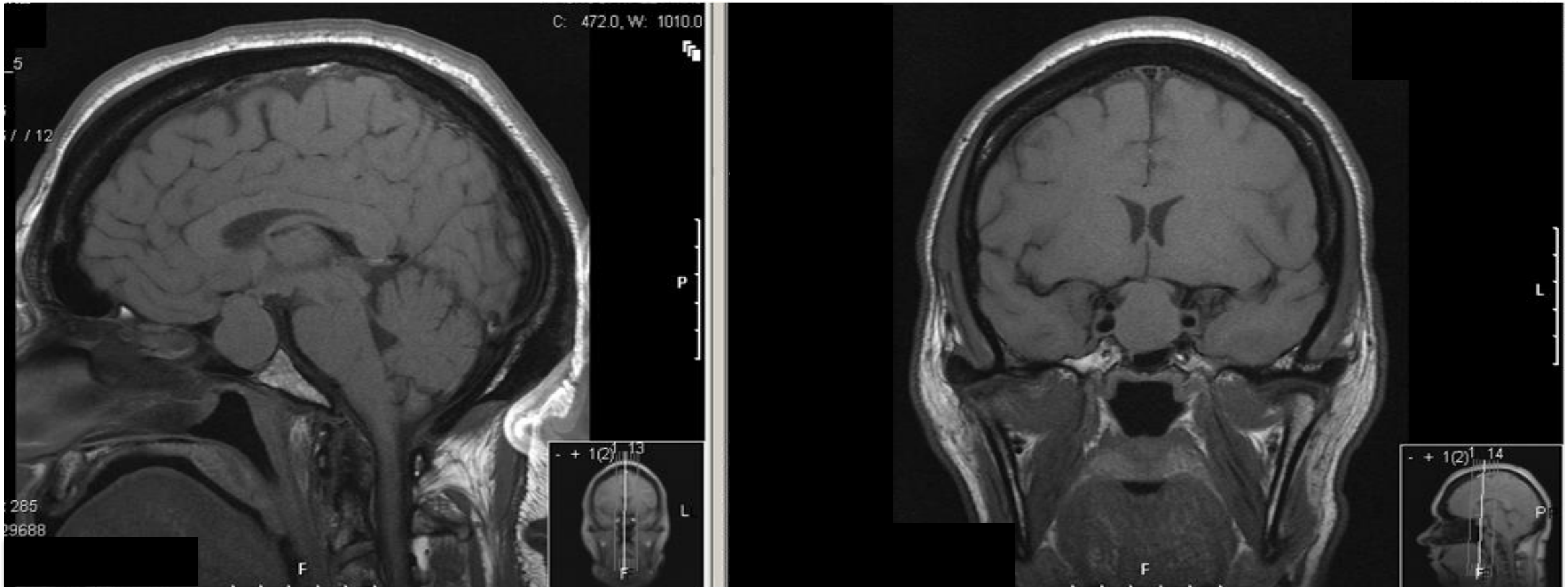
- L2-L4: BMD 1,719 g/cm²,
T-score 4,0 SD
- Both hips: BMD 1.214 g/cm²,
T-score 1.8 SD
- Body composition: BMI: 39,8;
fat: 38,1%, fat redistribution

Ophthalmologic examination

- Bilateral upper temporal visual field defects but without vision impairment

Skull radiography





Tumor diameters: CC/ AP/ TR = 26/ 21/ 22 mm

Tumor volume: 6481 mm³

WHAT IS THE FIRST TREATMENT OF CHOICE?

- Surgery?
 - Medical treatment: Somatostatin Analogues (SA) +/- GH receptor antagonist +/- dopamine agonists?
 - Radiation therapy?
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WHAT DID WE DO?

- Sandostatin 50 µg sc test:
 - Extensively response of GH: 56 → 11 ug/l (75%)
- Discussion with the neurosurgeon
 - invasive tumor, > 20 mm, difficult to cure by direct surgery (Knosp grade 3), chiasm and optic nerves compression
 - partial temporal visual field defect

OUR DECISION ...

- Based on data showing that the preoperative Somatostatin Analogues (SAs) treatment may improve surgical cure rate in newly diagnosed patients with acromegaly with macroadenoma
- Under close and careful follow-up (clinical and imagistic)
- Patient presented:
 - Bilateral temporal visual field defects but without vision affection
 - Tumour with invasive growth and low chance of cure by direct surgery
 - Increased perioperative risk
- With patient agreement

✓ **We decided SA treatment prior to surgery**

Bollerslev J, Eur J Endocrinol, 2019

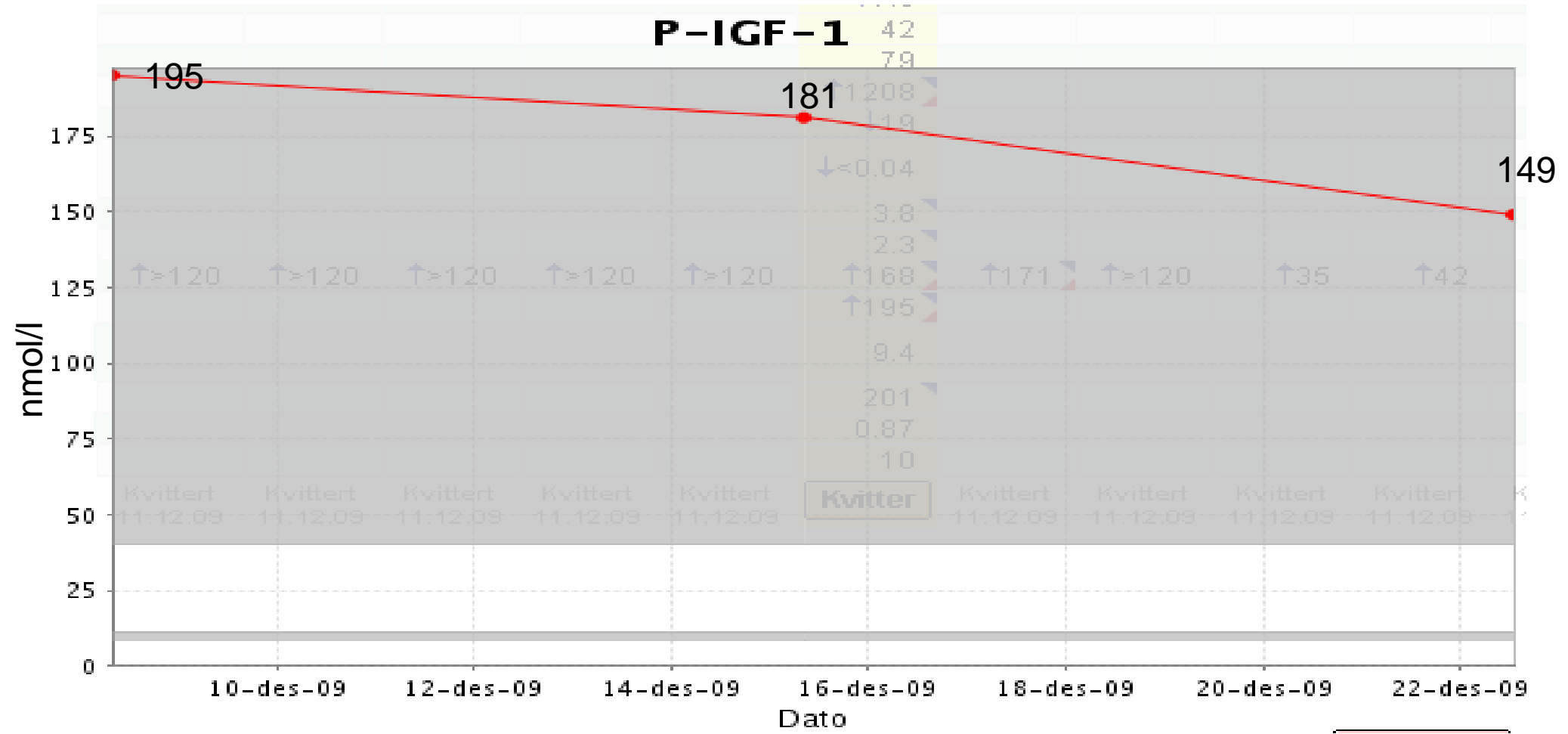
PATIENT RECEIVED SA TREATMENT S.C, FOR 12 DAYS

- **Clinical**

- no side effects of the treatment, low intensity headache, decreased soft-tissue swelling, increased quality of life

- **Laboratory**

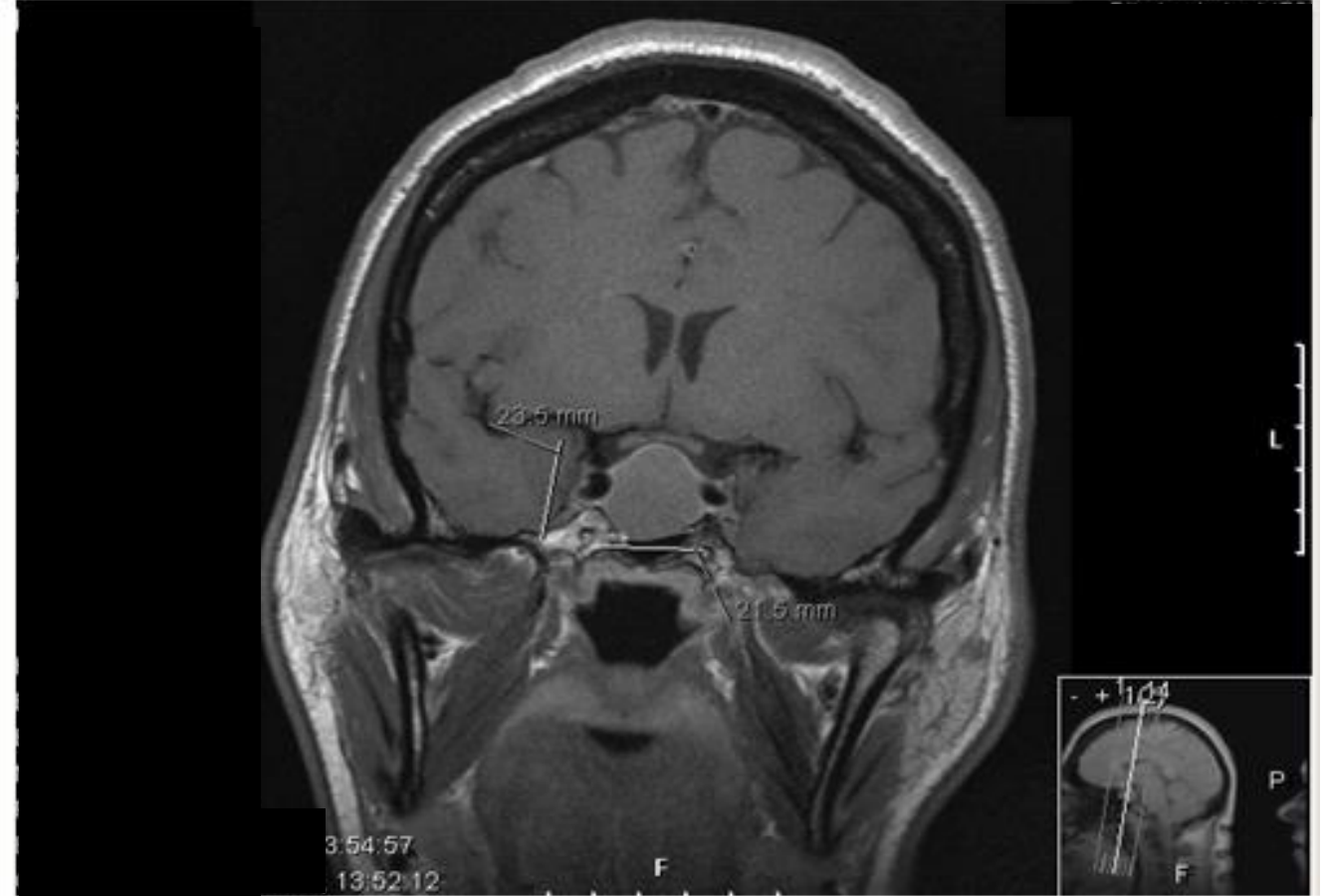
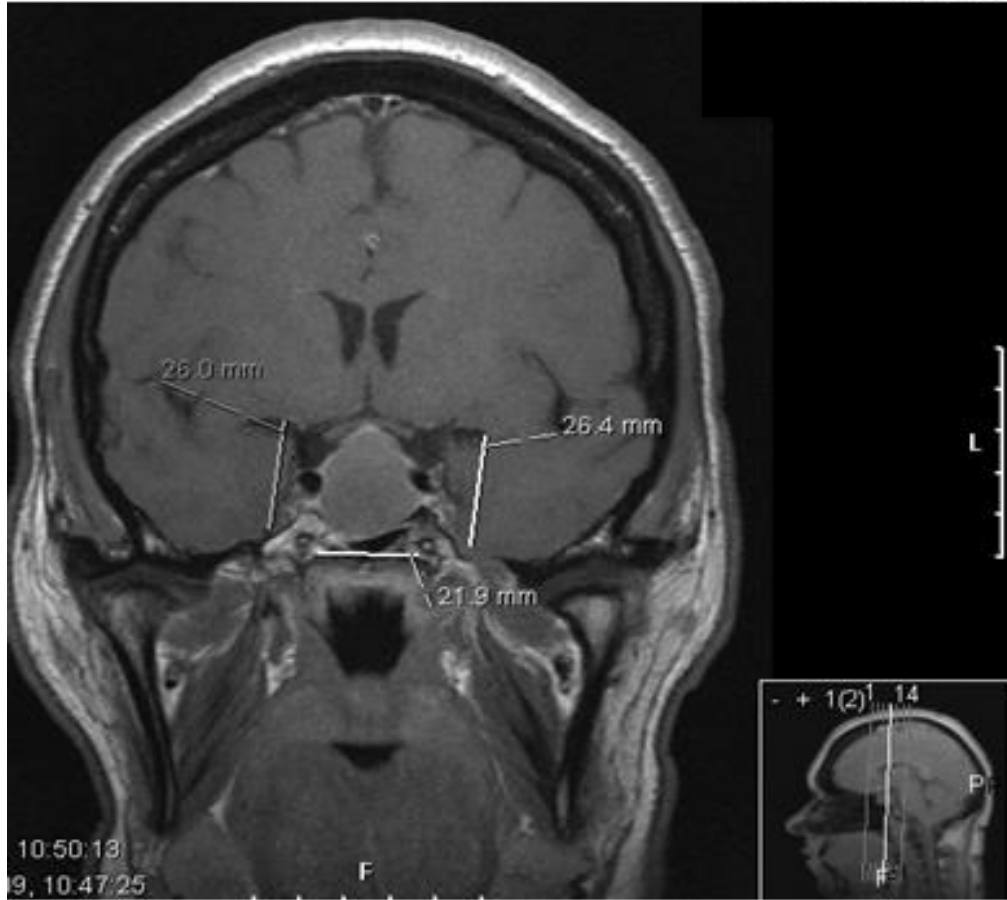
- GH day curve (7 days of treatment)
10 – 14 – 19 – 23 – > 40 ug/l
- GH single value (12 days of treatment): 26 ug/l



MRI

BASELINE

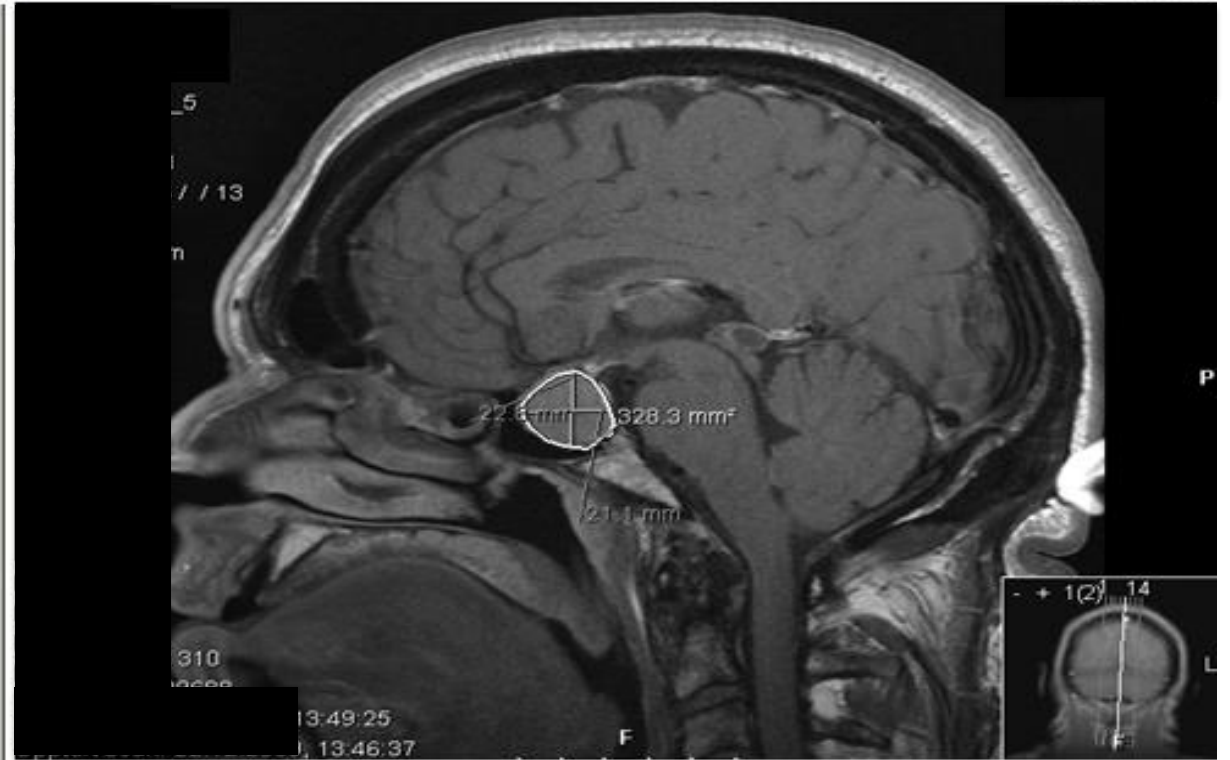
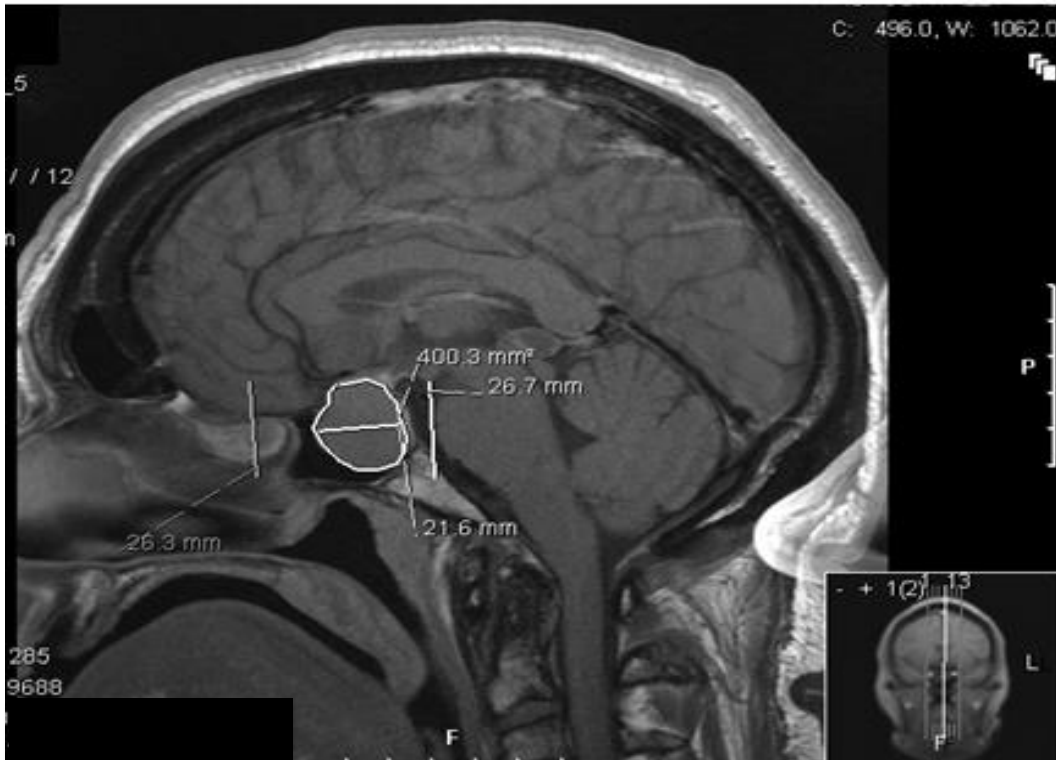
12 DAYS



MRI

BASELINE

12 DAYS



Tumor volume *: 6481 mm³

Tumor volume *: 5043mm³ (↓21%)

* measured by summation of the sections' area cut through the tumor

CONCLUSIONS

- A case of newly diagnosed acromegaly with slight visual field defects, presumed to be incurable by direct surgery
 - Treated primarily with SA under close and careful follow-up
 - Significant tumour volume reduction and consequently relieve of the optic chiasm
- SA treatment may be an appropriate first-line treatment option for GH secreting macroadenomas with compression of the chiasm**
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