

### Introduction:

Hypothalamic Obesity (HyOb) is the most flagitious endocrinologic problem following surgical intervention for childhood brain tumors. There is still no curative therapy for HyOb.

### Case:

4 y 10 mo old girl, presented with headache and vomiting

Cranial MRI revealed Craniopharygioma (Figure1)

The replacement therapies for postop panhypopituitarism was given but she developed HyOb within 4 months after operation.

#### Preop:

Height: 108.8cm (-0.1 SD), Weight: 19.6kg (+0.6 SD), BMI: 16.9 (+0.9 SD)

#### Postop:

1.m H: 108.9cm (-0.1 SD), W: 26kg (+2.4 SD), **BMI: 22.4 (+2.9 SD)**

4.m H: 109.1cm (-0.3 SD), W: 32kg (+3.4 SD), **BMI: 26.8 (+3.8 SD)**

6.m H: 111.1cm (+0.1 SD), W: 39kg (+4.6 SD), **BMI: 31.5 (+ 4.4 SD)**

OGTT and GHST were performed (Table-1)

Octreotide 10 mcg/kg/d was started due to hyperinsulinism in OGTT

Somatotropin 0.025 mg/kg/d sc was added for GH deficiency

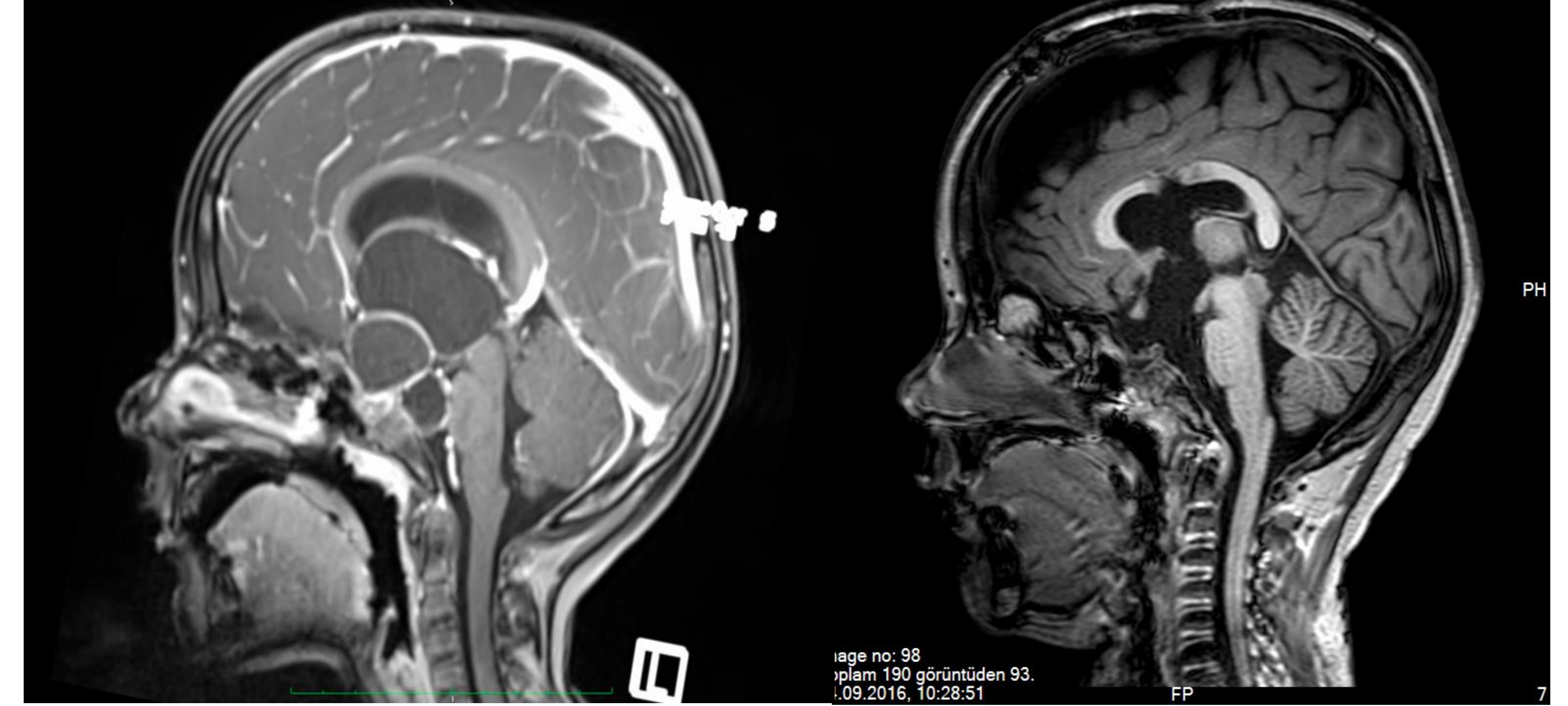
#### 1.year of octreotide:

- In OGTT, she was diabetic and still hyperinsulinemic (Table-2)
- But octreotide demonstrated significant reduction in BMI-SDS (Figure-2)
- Since she had normal HbA1c and normoglycemia in blinded CGM, it was switched to octreotide-LAR (7.5 mcg/kg/d)

**Table-1:** The results of OGTT and GH stimulation tests at 6.months of postop

	L-dopa - GHST	OGTT	
	GH (ng/ml)	Glucose (mg/dl)	Insulin (μU/ml)
0.min	< 0.05	82	15
30.min	< 0.05	174	164
60.min	< 0.05	161	186
90.min	< 0.05	158	251
120.min	< 0.05	125	175

**Figure-1:** Preop and Postop cranial MRI



- A gall calculi was developed 4 months later.
- Ursodeoxycholic acid was added.
- The octreotide-LAR was stopped at 6.months of octreotide-LAR due to suspicion of acute cholecystitis.

#### At cessation:

H: 130.2cm (+1.7 SD), W: 44kg (+3.5 SD), **BMI: 25.9 (+2.8 SD)**

#### 6.months of cessation:

H: 132cm (+1.5 SD), W: 43kg (+3.1 SD), **BMI: 24.9 (+2.6 SD)**

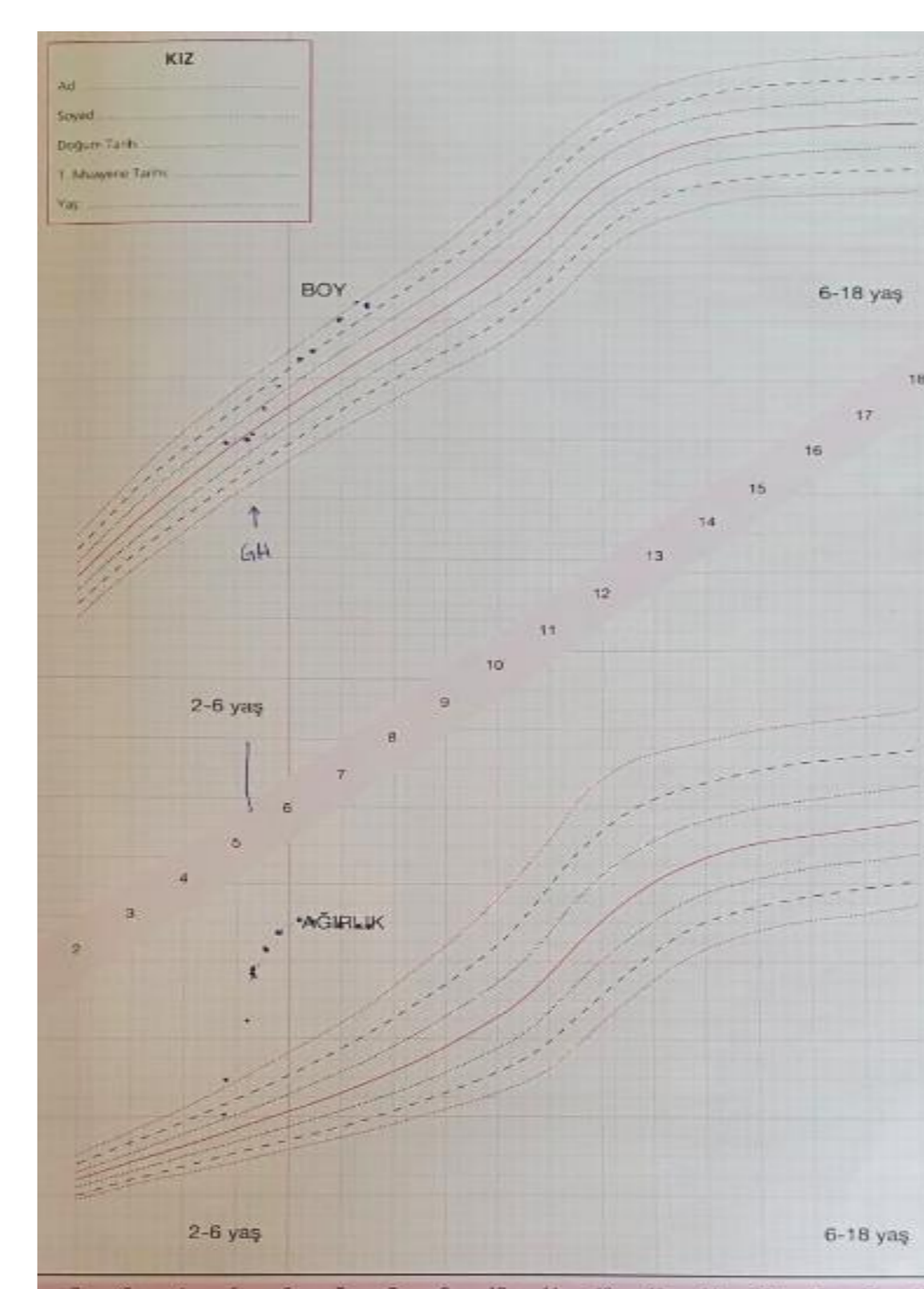
#### 9. months of cessation:

H: 132.7cm (+1.4 SD), W: 45kg (+3.1 SD), **BMI: 25.5 (+2.7 SD)**

**Table-2:** The results of OGTT at first year of Octreotide

	Glucose (mg/dl)	Insulin (μU/ml)
0.min	88	7
60.min	218	59
120.min	259	210
150.min	194	-
180.min	161	302

**Figure-2:** Postop percentiles of the patient



### Conclusion:

Octreotide (Oct) might be still an option in some selected patients with HyOb.

Although the reason of using Oct in HyOb is hyperinsulinism, this case showed that hyperinsulinism still continue under successful Oct therapy with delayed insulin peak.