

Tolvaptan use for a suprasellar tumor case with difficulty in water and sodium management after surgery

✕No potential COI to disclose

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Introduction

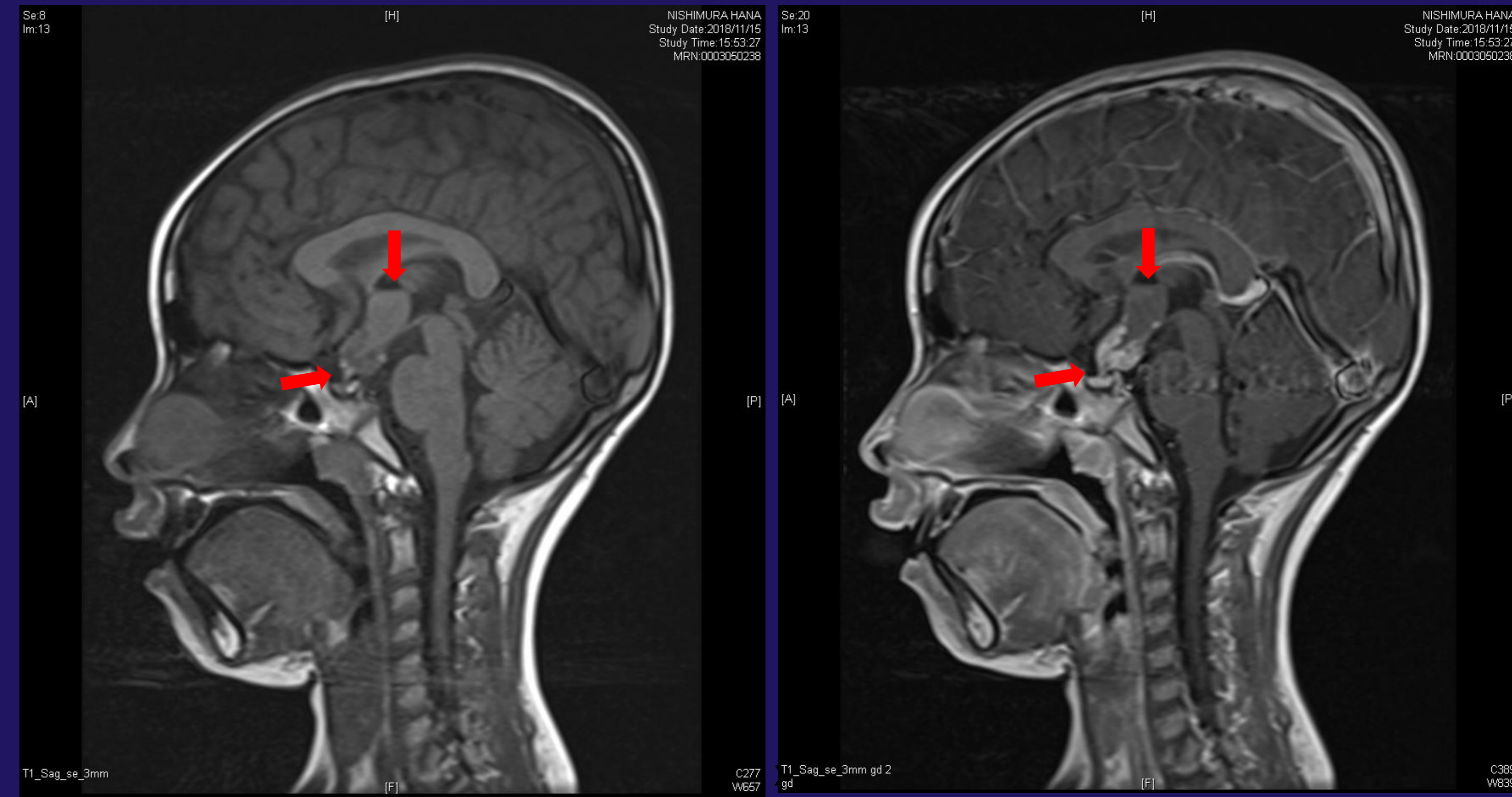
- We often experience difficulties with fluid and electrolyte management after surgery for the suprasellar or pituitary tumors.
- In Japan, There are very few reports of SIADH using tolvaptan in children.
- We present a pediatric case of severe SIADH after cranial surgery treated with tolvaptan.

Case

The case is an 8-year-old girl with no remarkable past history. She came to our hospital with complaint of vomiting after traumatic head injury. Cranial CT scan reviewed a suprasellar tumor.

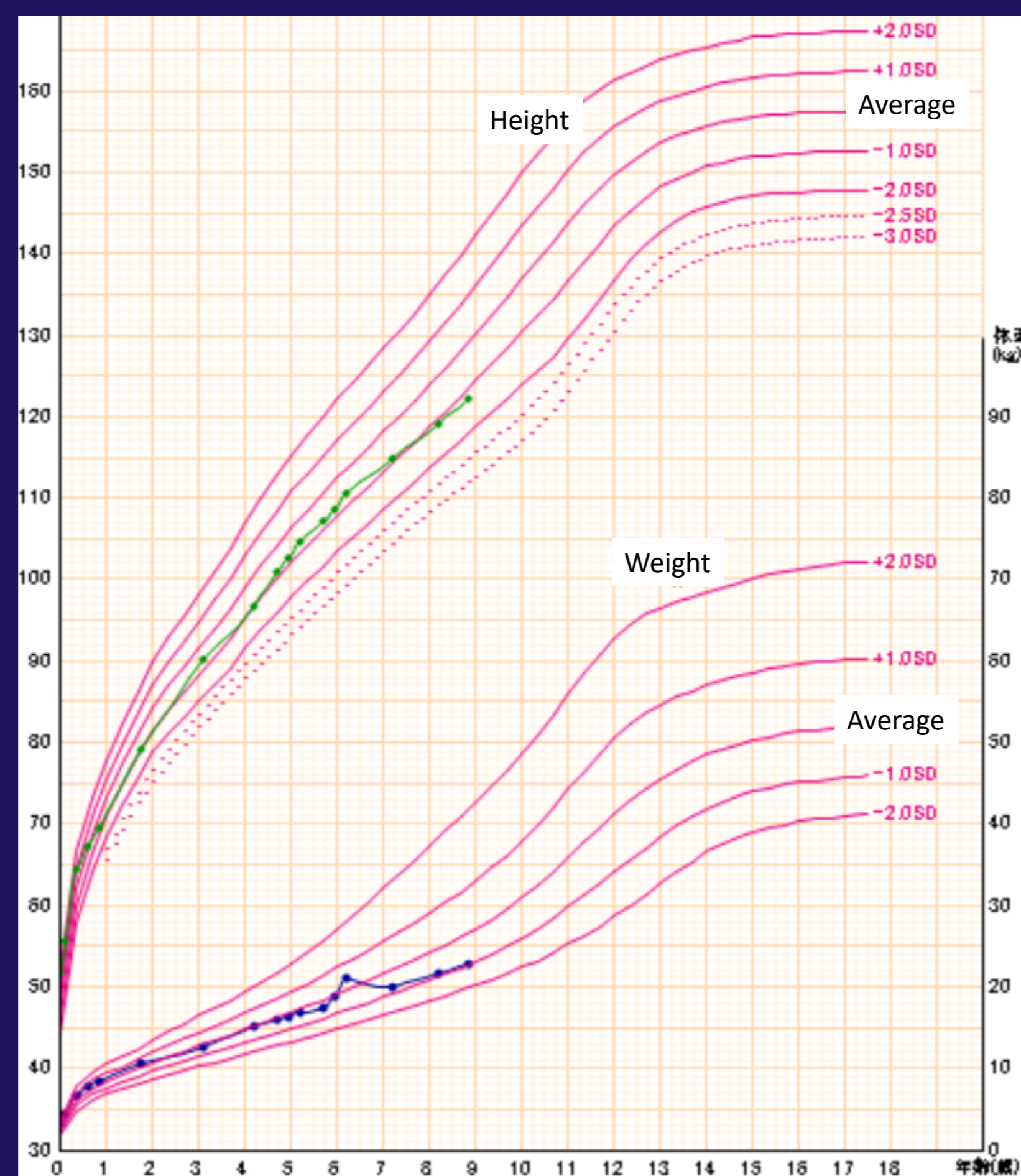
Examination

- Electrolyte levels were within normal range
- Normal hormone levels.
- Brain MRI showed a 14 x 11 x 33 mm supracellar mass, suspected as craniopharyngioma.

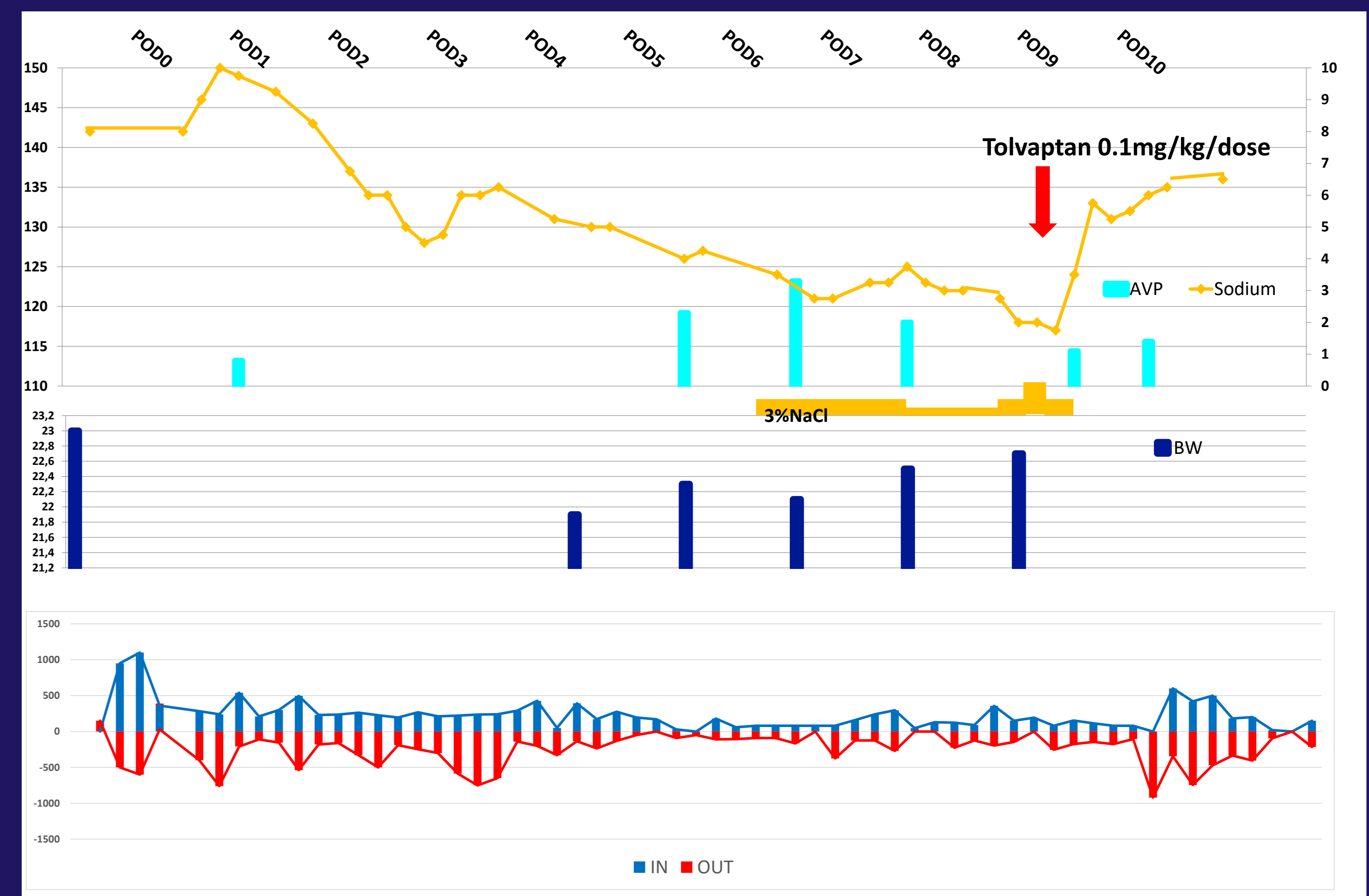


<chemistry>		<electrolytes>	
AST	31 IU/l	Na	141 mEq/l
ALT	17 IU/l	K	4.2 mEq/l
LDH	242 IU/l	Cl	106mEq/l
g-GTP	9 IU/l	Ca	9.3mg/dl
TP	7.0 g/dl	IP	3.8mg/dl
ALB	4.1 g/dl		
BUN	10.0 mg/dl		
Cre	0.44 mg/dl		

Growth chart



<endocrine data>		
TSH	1.887 µIU/mL	(0.35-4.8 µIU/mL)
FT3	3.05 pg/mL	(1.5-5.0 pg/mL)
FT4	1.15 ng/dL	(0.80-1.90 ng/mL)
ACTH	3.7 pg/mL	(0-46 pg/mL)
Cortisol	8.45 µg/dL	(6.0-21.0 µg/dL)
AVP	0.8 pg/mL	(<1.5pg/mL)
IGF-1	63 ng/mL	(111-438 ng/mL)
LH	<=0.10 mIU/mL	(0.0-0.4 mIU/mL)
FSH	1.00 mIU/mL	(2.1-6.1 mIU/mL)
E2	<5.0 pg/mL	(<5.0 pg/mL)



Tolvaptan was administered on day 8 after surgery. Three hours after administration, serum sodium level increased.

Discussion

In this case, it was difficult to diagnose whether the patient had either CSWS or SIADH in the postoperative acute phase.

Water overload and polyurination after surgery, post surgical DI/SIADH/CSWS phase (desalination) or can occurred concomitantly.

Thus, it was difficult to make diagnosis and chose treatment options.

In this case, 3%NaCl and water restriction did not improve hyponatremia; only tolvaptan was effective.

Relatively high AVP levels during severe hyponatremia suggested SIADH.

The use of tolvaptan promotes free water excretion and prevent the progression of hyponatremia.

Conclusion

Tolvaptan which is sodium sparing diuretics is a safe and effective treatment tool for severe SIADH in children.

References

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