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RARE CASE OF PINEAL GERMINOMA WITH ARGININE VASOPRESSIN DEFICIENCY

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INTRODUCTION/BACKGROUND
Pineal tumour is an uncommon type of brain tumour in Malaysia, with low incidence rate of 2.1% based on a demographic study done in 1 of the states in Peninsular Malaysia. On the other hand, germinoma is a common cause of intracranial tumor leading to arginine vasopressin deficiency (AVP-D). In a literature review, 82% of 95 patients were diagnosed with AVP-D.

CASE
We report a case of a 22-year-old Malay male, who was diagnosed with pineal gland tumour complicated with obstructive hydrocephalus. He underwent endoscopic biopsy of pineal region tumor and right ventriculo-peritoneal shunt insertion in January 2024.

Two days after his surgical intervention, he developed an episode of polyuria with urine output more 5 ml/kg/hr for consecutive hours in the ward without any accompanying thirst. Investigations showed high serum osmolarity of 294 mOsm/kg (NR: 271-286 mOsm/kg) with inappropriately low urine osmolarity of 161 mOsm/kg (NR: 300-900 mOsm/kg).

He was diagnosed with AVP-D and responded well to intravenous desmopression (DDAVP), a vasopressin synthetic analogue, with reduction in urine volume and passing more concentrated urine. Over the next few days, he started to develop more episodes of polyuria, requiring regular dosing of desmopressin.

The tissue histopathology of the pineal gland revealed germ cell tumour consistent with germinoma.

CONCLUSION
AVP-D is a known complication of intracranial germ cell tumour. Our case report shows that AVP-D may also happen as a consequence of neurosurgical intervention. Careful clinical and biochemical postoperative monitoring remains essential to correctly diagnose and manage AVP-D following neurosurgery intervention.

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WORSENING OF EXISTING CRANIAL DIABETES INSIPIDUS SYMPTOMS AFTER COMMENCEMENT OF HYDROCORTISONE

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INTRODUCTION/BACKGROUND
Central diabetes insipidus (DI) is a condition that causes persistent thirst and frequent urination. It can develop when a pituitary tumour compresses on the posterior pituitary gland and impairs the gland's ability to secrete vasopressin hormone.

CASE
We report a case of a 22-year-old male who presented with a 5-month history of delayed responses, progressive visual loss and lethargy. He also complained of excessive thirst, frequent urination and increased urine volume which was diluted. Clinically, he was dehydrated. Ophthalmological assessment revealed monocular blindness. Computed tomography of the brain reported a suprasellar mass with obstructive hydrocephalus. Anterior pituitary hormone profile revealed panhypopituitarism and laboratory results confirmed the presence of DI. He was managed with hydrocortisone tablets and BD dosing of desmopressin. Unfortunately, he developed episodes of worsening polyuria, and his sodium increased from 143 to 150 mmol 24 hours following commencement of hydrocortisone. His urine output improved following an increment of desmopressin to TDS dosing and his serum sodium normalized.

Anterior pituitary hormone profiles showed panhypopituitarism with stalk effect; TSH: 1.192 m IU/L, FT4: 3.9 pmol/L, LH: 0.35 IU/L, FSH: 0.61 IU/L, testosterone: <0.35 nmol/l, ACTH: <0.22 pmol/L, morning cortisol: 108 nmol/L and serum prolactin: 2042 m IU/L. His urine sodium: 47 mmol/L, serum osmolality: 345 mosm/kg, and urine osmolality: 277 mOsm/kg. Pituitary MRI showed a well-defined lobulated suprasellar cystic lesion measuring 2.4 x 2.3 x 1.7 cm, causing compression to the floor of the 3rd ventricle which leads to obstructive hydrocephalus. There was a focally enhancing lesion at the pineal gland. He subsequently underwent a right ventriculoperitoneal shunt and supraorbital craniotomy and biopsy. HPE was reported as germinoma. He is currently stable on hydrocortisone, thyroxine and sublingual desmopressin replacement.