Water balance disorders following neurosurgery are well recognised and may give rise to both hypo- and hypernatraemia. We present the case of a 42-year-old male who developed a triphasic response after extended transsphenoidal surgery for a pituitary stalk lesion. The patient presented with a 4 month history of unremitting frontal headaches and dizziness. MRI confirmed a 15×15 mm stalk lesion. Clinical examination including formal visual perimetry was unremarkable. Blood tests revealed primary hypothyroidism but were otherwise normal. His past medical history included hypertension and alcoholism. He was referred to the UK where he underwent extended transsphenoidal surgery. In the immediate postoperative period, he developed polyuria (670 ml/h) and polydipsia (500 ml/h) which led to a negative fluid balance (of 2 L over 12 hours), serum sodium of 142 mmol/l, high serum osmolality of 299 mOsmol/kg and low urine osmolality of 131. The patient was normoglycaemic and did not receive any diuretics. Desmopressin (initially subcutaneous then desmotabs) reduced the polyuria and, together with intravenous fluids (2 L of 5% dextrose/day between days 1 and 2) and ad libitum drinking, restored normonatraemia. Hydrocortisone 10-5-5 mg was started on the 6th postoperative day in view of a morning cortisol of 25 nmol/l. On the 7th day post-op he developed severe SIADH with a serum sodium of 120 mmol/l, which was managed conservatively with fluid restriction (1.5 l/day). He was clinically euolaemic, with normal kidney function (creatinine 53 Umol/l). Despite fluid restriction, fluid intake exceeded urine output (19 ml/h) producing a positive fluid balance of +1.5 l and a further fall in serum sodium to 119 mmol/l. Here the patient complained of headaches, unsteadiness and lethargy but no confusion or seizures. On day 12 the patient redeveloped polyuria (250 ml/hour) for which desmotabs 100mcgs daily were started. In anticipation of a triphasic response he was continued on ad libitum fluid intake and desmopressin was further increased to 100–200 mcgs as the patient was still waking up hourly to micturate. He was advised to omit one dose a week to allow excess water to be offloaded. On the 13th postoperative day he developed a serum sodium of 138 mmol/l, serum osmolality 299 mOsmol/kg and urine osmolality of 79 mOsm/kg. Histology confirmed a pituicytoma (WHO grade 1); Ki-67 <1%.