This patient has cranial diabetes insipidus and hypoparathyroidism with low serum testosterone level and normal range FSH and LH. There was no evidence of granulomatous diseases, histiocytosis or sarcoidosis despite a history of polyuria for more than 10 years, although these may take years to manifest and diabetes insipidus may be an early manifestation. However, as has been reported, about 30% of these patients have antibodies against vasopressin-secreting cells in the hypophysis.

The hypocalcaemia and hyperphosphataemia with serum parathyroid hormone levels (mid-molecule RIA), inappropriately low for the level of calcium, indicate hypoparathyroidism which again on clinical grounds appears to be sporadic and idiopathic, and for which the most likely cause is autoimmune.

He also had normal secondary sexual features with borderline low serum testosterone which could indicate the later development of hypogonadotrophic hypogonadism in which usually there is a hypothalamic defect in gonadotrophin releasing hormone secretion and is not commonly associated with disorders of other hypothalamic hormone secretion including diabetes insipidus.

A. Jabbar
J. Akhter
Department of Medicine,
The Aga Khan University Hospital,
PO Box 3500,
Karachi-74800, Pakistan.

References

Long-term dobutamine in heart failure

Sir,

We report here successful long-term outpatient intravenous infusion of dobutamine for intractable congestive heart failure.

A white male sustained an inferior myocardial infarction at the age of 54, complicated by heart failure and pulmonary embolism. Diabetes was then diagnosed and 4 years later intractable heart failure followed further cardiac infarction. After repeated hospital admissions for heart failure over the next 2 years he was referred for heart transplantation. Investigation confirmed end-stage dilated cardiomyopathy due to ischaemic heart disease, but he was not accepted as a transplant candidate. He continued to be admitted every 6 weeks or less with gross anasarca, acute pulmonary oedema, hypotension and angina, alone or in various combinations.

Eventually he became moribund, with hypotension (blood pressure 90/60 mmHg), hyponatraemia (serum sodium 120 μmol/l), oliguria resistant to high-dose intravenous diuretics in the face of 15–20 kg fluid overload and progressive azotaemia (serum creatinine > 200 μmol/l). His treatment at this time included frusemide 500 mg twice daily, digoxin and captopril 12.5 mg thrice daily.

Dobutamine was started at a dose of 5 μg/kg/minute, with improvement in cardiac output and consequent diuresis. It proved impossible to wean him from dobutamine, so we continued to infuse the undiluted drug in a dose of 250 μg over 12 hours (approximately 5 μg/kg/minute) from a Graseby syringe driver via a Hickman central venous line with an inline bacterial filter. He was discharged self-caring with help from his general practitioner and a district nurse.

Two months later he was content with his quality of life and able to walk slowly from a car to his local shops. A 24-hour electrocardiography tape showed no tachyarrhythmias and his angina did not worsen. He continued to receive continuous dobutamine infusion for over 3 months with no thrombotic nor infective complications of treatment and sustained clinical improvement. He died eventually at home in pulmonary oedema.

Outpatient dobutamine infusion for heart failure has been described in a few patients in the USA but not previously in the UK: the drug has no product licence for chronic undiluted usage. We found the therapy to be simple to establish and maintain, with improvement in exercise tolerance and quality of life, and freedom from hospital admission.

Tolerance to therapy has been reported but this was not apparent in our patient. Neither was there any arrhythmia, despite the use of undiluted dobutamine.

Functional improvement from a mean NYHA grade of 3.8 to 2.6 was reported by Appelfeld et al., similar clinical improvement occurred in our patient. Also, the average reported duration of dobutamine support is 3.2 months, comparable to our case.

The main argument against continuous home dobutamine infusion is financial. The drug alone in our case cost approximately £200 per week, with other charges for lines, filters and syringes plus a degree of home supervision. Against this must be set the undoubted clinical benefit and a substantial saving of protracted hospitalization.

In conclusion, home dobutamine is a simple, effective medium-term treatment for severe heart failure: its widespread use may be limited by cost considerations.

Morag Gorrie
Anthony Nicholls
Royal Devon and Exeter Hospital,
Barrack Road,
Exeter EX2 5DW, UK.

References
Stercoral perforation with verapamil

Sir,

Constipation is the commonest and most troublesome non-cardiac side effect of verapamil use.1,2 We would like to report a case of stercoral perforation in a woman taking verapamil. A 78 year old woman was admitted with sudden onset of lower abdominal pain associated with signs of generalized peritonitis. She had developed chronic constipation after commencement of verapamil for recurrent supraventricular tachycardia 9 months previously and prior to this time she had had a normal bowel habit. Two months prior to admission she had been found to be biochemically hypothyroid and was treated with thyroxine. On admission she was clinically and biochemically euthyroid.

After resuscitation, laparotomy revealed a perforation in an otherwise normal sigmoid colon. The proximal and distal colon was loaded with scybaloous stools. The peritoneum was lavaged and the perforated colon exteriorized. Postoperatively the patient suffered from recurrent supraventricular tachycardias until verapamil was recommenced on the third day. This was followed by a prolonged (13 day) ileus which rapidly resolved on substituting atenolol for verapamil.

Previous reports of gut immotility secondary to verapamil describe patients susceptible to constipation because of underlying medical conditions.3 Our patient had been diagnosed as being hypothyroid in the recent past, although she was clinically and biochemically euthyroid on admission. Serpell and Nicholls' review of colonic stercoral perforation notes that scybaloal formation may occur months prior to perforation, as it takes time to traumatize and breach the intestine.4 It is possible that hypothyroidism was a contributing factor to this patient's stercoral perforation but it is unlikely to be the sole cause. There are virtually no reports of hypothyroidism causing intestinal perforation or immotility other than a case of fatal intestinal atony attributed to myxoedema in 1969.5

It is therefore most likely that verapamil was the major cause of this patient's perforation, with hypothyroidism as a possible exacerbating factor. Verapamil significantly reduces motor activity of the intestine; this returns to normal on cessation of the drug.2

Severe constipation is frequently described as one of the most troublesome side effects of verapamil use. We suggest that verapamil should be used with caution in patients with pre-existing tendency to constipation and that its use should be reviewed if other factors which exacerbate constipation develop during treatment.

J.C. Doughty
A.K. Donald
G. Keogh
T.G. Cooke

Department of Surgery,
Queen Elizabeth Building,
Royal Infirmary,
Glasgow G31 2ER, UK.

References

Cerebral infarction after cisplatin-based chemotherapy

Sir,

Oncological patients may suffer acute cerebrovascular accidents but a relationship to chemotherapy toxicity is rare. We report the case of a patient who developed cerebral infarction directly related to cisplatin treatment. A 50 year old woman, with no known risk factors, was diagnosed as having ovarian adenocarcinoma, FIGO IIIc stage. Post-surgical masses measuring more than 2 cm in diameter were present and CAP chemotherapy (cyclophosphamide 500 mg/m², i.v. day 1, doxorubicin 40 mg/m², i.v. day 1, and cisplatin 80 mg/m², i.v. day 1) was started. Twenty-four hours after the first cycle, she developed motor aphasia and agraphia. The haematological laboratory tests (haematocrit, white cells, differential count, platelets, prothrombin time and partial thromboplastin time) were normal as were blood chemistry tests (cholesterol, HDL-cholesterol, triglycerides, magnesium and lactate dehydrogenase). VDRL was negative, and echocardiogram and electrocardiogram were normal. A computed tomographic (CT) brain scan was also normal.

Given the sequential relation between previous chemotherapy and the neurological disorders, we changed the treatment to cyclophosphamide 500 mg/m², i.v. day 1 and carboplatin 350 mg/m², i.v. day 1. She received two cycles without neurological problems, but the abdominal disease progressed. We therefore changed the treatment back to cisplatin 90 mg/m², i.v. days 1–3, doxorubicin 30 mg/m², i.v. day 3, cyclophosphamide 300 mg/m², i.v. day 3, and hexamethylmelamine 200 mg/m², orally days 4–14. Six hours after cisplatin administration, the patient experienced dysarthria and a left homonymous hemianopia, and a CT brain scan revealed an acute infarction on the right occipital lobe. Again, the same laboratory tests that had been performed previously were normal. The anti-emic treatment was always metoclopramide and diphenhydrine.

The neurotoxicity of cisplatin is well known. The most common disorders are distal neuropathy (mainly sensory), ototoxicity and encephalopathy. However, cerebrovascular accidents very rarely follow its administration, and there is generally evidence of associated risk factors, or synergic toxicities of the chemotherapy in these cases.1–3

The pathogenesis is unknown. Increase in the von Willebrand factor antigen, arterio-spasitic disorder, platelet alterations, thromboxane prostaclycin homeostatic disturbances and variations in magnesium levels are
Long-term dobutamine in heart failure.

M. Gorrie and A. Nicholls

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