Cessation of Galactorrhea in a Chronic Kidney Disease Patient with Non-Tumoral Hyperprolactinemia after Renal Transplantation

Sir,

A 42-year old multiparous diabetic and hypertensive lady with ESRD on maintenance hemodialysis (MHD) was investigated for renal transplantation. She was on recombinant erythropoietin, iron and folic acid supplements and on alpha methyl dopa, prazosin, nifedipine retard, domperidone, frusemid and losartan. She presented with spontaneous galactorrhea for one month and also had amenorrhea.

Baseline relevant investigations showed Hb 11.9 g/dl, random glucose - 141 mg/dl, creatinine 7.8 mg/dl, free T4 6.91 mcg/dL, TSH 5.96 mIU/ml, intact parathyroid hormone was 427 pg/ml, LH level 4.3 mIU/ml, serum prolactin level was 885.03 ng/ml, tested by using chemi-luminescence method based on ELISA. Histopathological examination showed mild proliferative endometrium and breast examination was unremarkable except for galactorrhea. A visual field examination and an MRI of the sella showed no gross abnormality (Fig. 1).

She was initiated on carbegoline 0.5 mg BID which is a dopaminergic ergolic derivative which acts via D2 receptor. She underwent a live transplant on 9/8/05. Her immunosuppressive medications included basiliximab, prednisolone, sodium salt of mycophenolic acid and tacrolimus. Her galactorrhea subsided 48 hours after the transplant and carbegoline was discontinued. She was placed on nifedipine, clonidine and minoxidil for her hypertension. She had a biopsy-proven acute cellular rejection which was treated with methylprednisolone pulses. She was discharged with a serum creatinine of 1.1 mg/dl. Five weeks after transplantation her serum prolactin level was 19.2 ng/ml.

In patients with CKD, there is abnormality of the hypothalamic-pituitary-gonadal axis which can lead to hyperprolactinemia, amenorrhea and galactorrhea.1 Hyperprolactinemia may be due to non-tumoral causes, microprolactinomas or macroprolactinomas.2 Prolactin levels are elevated in patients with chronic renal failure because of decreased clearance of the hormone.3 Normal prolactin levels in women and men are below 25 µg per liter and 20 µg per liter, respectively.2 There is a 10-fold increase in prolactin during pregnancy.3 Diagnostic criteria for macroprolactinoma is serum prolactin levels of 200 µg per liter or more and evidence on MRI of a pituitary tumor that is more than 10mm in diameter.2 For microprolactinoma, the criteria is serum prolactin levels of 50µg per liter or more and evidence on MRI of a pituitary tumor that is 10mm or less in diameter.2 Drugs causing hyperprolactinemia (25-100 µg/L) include metoclopromide, phenothiazine, butyrophenones, risperidone, MAO inhibitors, tricyclic antidepressants, serotonin-reuptake inhibitors, verapamil, methyldopa and estrogen. Levels return to normal within days after the cessation of therapy.3 Calcineurin inhibitors have helped reduce prolactin levels in renal transplant recipients.1 However, serum levels of prolactin rarely ever reach the magnitude as seen in our patient with symptomatic hyperprolactinemia.

In our patient, it could have been due to methyldopa administration, renal failure and mild hypothyroidism. Her dramatic response soon after successful transplantation with disappearance of galactorrhea suggests renal failure as the predominant cause for the hyperprolactinemia.

*Sri Ramachandra Medical College and Research Institute, Chennai, India. **Madras Medical Mission Hospital, Chennai, India.
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