Lesson of the Week

Facial palsy with severe hypertension due to renal tumour

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Bell's palsy is usually the diagnosis for reversible lower motor neurone facial paresis of abrupt onset in children. We report on a girl in whom facial paresis led to the detection of severe hypertension produced by a renal tumour.

Case report

A 14-year-old girl developed right facial paresis which spontaneously recovered over four weeks. One month later she developed a similar weakness on the left side. Her general practitioner, recalling the association between hypertension and facial palsy, measured her blood pressure, which was raised, and referred her to hospital. Her only other complaint was of intermittent headaches for two years that had been diagnosed as migraine and had responded to treatment with clonidine (as Dixarit 0.025 mg twice daily), though not to conventional analgesics. A physical examination confirmed severe left-sided lower motor neurone facial paresis and hypertension. Her blood pressure was 230/150 mm Hg lying and 170/120 mm Hg standing. The left kidney was grossly enlarged. She had bilateral papilloedema, with a few soft exudates but no haemorrhages. There were no other abnormal neurological signs.

The results of investigations were: haemoglobin 11.0 g/dl; plasma creatinine 90 μ mol/l (1 mg/100 ml); plasma potassium 3.1 mmol(mEq)/l. A chest x-ray examination showed a prominent left ventricle and the electrocardiogram showed left ventricular hypertrophy. Microscopy of the urine showed eight to 10 red cells per high power field. A 24-hour urine collection contained no protein. Concentrations of plasma and urinary catecholamines and urinary vanillylmandelic acid were normal. The peripheral venous renin activity was grossly raised: recumbent 20.4 pmol/h/ml (normal range 1.14-2.65 pmol/h/ml); ambulant 32.4 pmol/h/ml (normal range 2.82-4.49 pmol/h/ml). An ultrasound examination of the abdomen showed an enlarged left kidney, and an intravenous urogram indicated that there was a left renal mass with upward displacement of the pelvis. Computed tomography showed a mass arising from the left kidney.

Before operation her hypertension was treated with atenolol and hydralazine. At laparotomy a large vascular renal tumour

Measure the blood pressure in a patient with facial palsy—it may be associated with severe hypertension

was removed. The right kidney and liver were normal. A histopathological examination showed that the tumour was a well-differentiated adenocarcinoma, that had not affected the renal vein or the renal capsule. After operation the blood pressure returned to normal and antihypertensive drugs were withdrawn. The headache subsided, and the papilloedema resolved. The facial weakness improved completely over four weeks. The plasma renin activity returned to normal.

Comment

The association of facial palsy and hypertension was first described as early as 1869.¹ The incidence of facial paresis in severe hypertension has been reported to be 3 to 17%.²⁻⁴ It is usually unilateral and reversible.⁴ Half the patients have papilloedema and in half of these cases facial palsy is the first clue to the hypertension. Although the mechanism is uncertain, in the only two cases that had a necropsy examination a clot was found in the facial canal, which suggested compression due to a bleed in the facial canal.

Our patient had a rare and surgically correctable cause of hypertension, particularly as adenocarcinoma of the kidney is unusual in children.⁵ Awareness of the association between facial paresis and hypertension led to the detection and prompt treatment of this malignant tumour. In considering the possible causes of facial palsy in a child or adult it is important that the examination should include measurement of the blood pressure.

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References

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