DRW3) may now be identified in more than half of the patients by a relatively simple serological technique.

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Patients' attitudes to measuring their own blood pressure

Patients with diabetes mellitus commonly monitor their disease by simple urine analysis and adjust their treatment on the basis of these observations. Wilson¹ has argued that patients with hypertension should measure their own blood pressure at home, but if this concept is widely applied it must be acceptable to those using it.² For several years patients attending our hypertension clinic have measured their own blood pressure,³ but while we were aware of the advantages from the doctors' viewpoint we had no definite information on the patients' attitudes. We therefore decided to test their reactions by means of a questionnaire.

Patients, methods, and results

Ninety-five consecutive patients attending the hypertension clinic were trained to measure their own blood pressure, oral instruction being reinforced by written advice. The equipment used was a Littman Nursescope and an anaeroid sphygmomanometer. All patients had been taking their own blood pressure for some months when they answered the questionnaire.

Ninety-five questionnaires were sent out and 82 (86%) returned. Forty-three of the patients were men and 39 women; their ages ranged from 26–68 years and their occupations from the professional to the unskilled. Twenty-six of the patients learnt the technique in under one day, 40 took 2–7 days, and 16 took 7–14 days. Very few were unable to master the technique. Forty-three patients took under five minutes to take their blood pressure both lying and standing, while a further 26 accomplished this in less than 10 minutes. Problems with the apparatus were mainly those of applying the cuff, but with a Velcro strip it could be left rolled up and slipped on the arm without opening. Other difficulties included not hearing the Korotkoff sounds clearly and not being able to inflate the cuff to a sufficient pressure. Thirty-three patients had persuaded a relative or friend to help in taking their blood pressure, and in most cases the assistant dealt both with inflating the cuff and listening with the stethoscope. Twenty-five patients felt encouraged to take their tablets more regularly, particularly when they observed a fall in blood pressure with treatment. Surprisingly, 34 patients were so confident of their readings that they were willing to change their medication on the basis of the figures they obtained. Over half the patients (48) were willing to continue taking their blood pressure at home indefinitely—usually every day. One third of the patients took someone else's blood pressure, usually their spouse's. One patient took a colleague's pressure and on finding it higher than his own pretreatment figure recommended that he saw his doctor for further advice.

The great majority of patients were reassured by taking their blood pressure and most expressed satisfaction from understanding more about the

problem for which they were being treated. Some decided to relax consciously when their pressure was high, providing biofeedback.

Comment

The place of home blood-pressure readings in managing hypertension remains unclear, as the relationship of these readings to clinic records has not been clarified. Burns-Cox *et al*⁴ have shown that home blood-pressure measurement is practicable, and our patients clearly found it easy to master the technique and took little time to perform it.

We think that home blood-pressure estimation is acceptable to many patients, and suggest that each patient with hypertension should be encouraged to take his or her own blood-pressure at the start of treatment. Measurements should continue for at least three months, by which time the blood pressure should be under control. If the patient wants to continue he should be encouraged to buy his own equipment. Home blood-pressure recording used in this way should improve patient compliance and give greater personal insight into the disorder.

We thank Boehringer Ingelheim for providing the equipment.

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Ectopic ACTH-secreting tumour of the bronchus and agammaglobulinaemia

Ectopic ACTH production is one of several well-recognised endocrine manifestations of carcinoma of the bronchus.¹ I report one such case that is unusual in two respects: firstly, the patient was already receiving corticosteroids for asthma; and, secondly, he developed agammaglobulinaemia.

Case report

A 46-year-old man was first admitted to hospital because of asthma. He gave a three-week history of cough, wheezing, and breathlessness, and responded rapidly to corticosteroids and salbutamol by mouth. Respiratory function was normal when tested after discharge. Skin tests gave positive reactions to common allergens, and the results of precipitin tests for aspergillus and avian proteins were negative, as were those of other investigations including plasma electrolytes and protein electrophoresis. He remained well but six months later was seen to be Cushingoid and the dose of prednisolone was reduced to 7 mg daily. Ten months after his first admission he was again admitted to hospital, on this occasion because of severe weakness of one week's duration. He had developed oedema of the legs a few weeks earlier; this had responded to frusemide and had been attributed to a combination of cor pulmonale and the steroids. He was grossly Cushingoid, with striae, hyperpigmentation, a widespread acneiform rash, and oral candidiasis. Plasma concentrations were as follows: sodium 140 mmol(mEq)/l, potassium 2.5 mmol(mEq)/l, bicarbonate 34 mmol(mEq)/l, and urea 8.3 mmol/l (50 mg/100 ml). A chest x-ray film showed some prominence of the left hilum but had not changed over the previous two years. Hypokalaemia was attributed to a combination of inadequate potassium supplements and the steroids, and initially with oral and intravenous potassium he improved. Further investigations disclosed glycosuria with a plasma glucose concentration of 32.8 mmol/l (591 mg/100 ml) and he received insulin. Plasma protein electrophoresis now showed agammaglobulinaemia: IgG was 0.3 g/l (normal value 8.0–17 g/l), while IgA and IgM were normal. A further chest x-ray film showed lingular consolidation, but tomograms were normal. At this stage, because of the chest x-ray appearances and his worsening metabolic state, an ectopic ACTH-producing tumour was suspected. The plasma

cortisol concentration was 3174 nmol/l (115 µg/100 ml) at 9 am and 2981 nmol/l (108 µg/100 ml) at midnight, while there was no suppression after giving 8 mg dexamethasone. Bronchoscopy showed a tumour of the left upper lobe bronchus. His condition rapidly deteriorated, and he died six weeks after admission. Necropsy showed an oat cell carcinoma of the left upper lobe bronchus with widespread metastasis. Both adrenals were twice normal size because of diffuse cortical hyperplasia. The pituitary was normal. There was no evidence of lymphoma, leukaemia, or myeloma.

Discussion

In idiopathic late-onset immunoglobulin deficiency there is usually an interval of several years before the malignancy develops,² whereas in this patient both conditions presented together. Agammaglobulinaemia may complicate lymphoma, chronic lymphatic leukaemia, and myeloma but is not a feature of other malignancies. The exact relationship, if any, between the malignancy and the immune deficiency in this patient therefore remains obscure.

Since side effects from corticosteroids are so common it was assumed at first that they were partly responsible for both his oedema and hypokalaemia. In retrospect clearly this was not so: the severity of the metabolic upset was out of keeping with the 7-mg dose of prednisolone he was receiving. The biochemical and histological changes were typical of ectopic ACTH-production, as was his rapid deterioration.³ It is important to remember that, although drugs may cause many diseases, in each case alternative aetiologies should also be considered.

I thank Dr P W R Harris for permission to report this case; Dr P Forgacs, who kindly performed the respiratory function tests; Mr A R Makey for the bronchoscopy; and Dr Max Millard for the necropsy.

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Management of cervical pregnancy with circumssuture and intracervical obturator

A gynaecologist may encounter a cervical pregnancy only once or twice in his professional lifetime, but there is no knowing at what stage of his training the first time will be. The inexperienced may be taken aback at the very considerable haemorrhage that can occur in such a case and the technique we describe in the following history is of value, not only as a first-aid measure, but also as a definitive treatment which aims at avoiding hysterectomy.

Case report

A 22-year-old unmarried foreign girl was referred to a private nursing home for termination of pregnancy on psychiatric grounds, having had 12 weeks' amenorrhoea at the time. Her only previous pregnancy had been terminated at eight weeks, two years before. At operation a soft pelvic mass the size of a 12-week pregnancy was found pushing the uterine body, a small firm mass, upwards and forwards. A thin effaced external cervical os was found to admit a finger and the pregnancy was terminated by aspiration. A large haemorrhage of about 2 l occurred, and digital examination, which disclosed a cavernous cervical canal with a closed internal os, enabled a diagnosis of cervical pregnancy to be made beyond doubt. The cervical canal and vagina were securely packed with gauze, a replacement blood transfusion was given, and the patient was transferred to the local district general hospital.

On the second postoperative day, under general anaesthetic, the packs were removed and a measured blood loss of 2550 ml ensued. This was halted by inserting a 35 FG (11.14 mm diameter) stiff polyethylene Argyle sucker tube into the cervical canal and compressing the cervix against this by a 5-mm

mersilene Shirodkar-type circumssuture, inserted according to McDonald's technique, as high and as tightly as possible. (Even despite the tightness there was a tendency for the polyethylene obturator to slip out, and so it was tacked to the cervix with a silk stitch.) A further blood transfusion was given.

On the thirteenth postoperative day (the eleventh after the second operation) the obturator and circumssuture were removed, but a further blood loss of about 500 ml occurred shortly afterwards and they were replaced. The obturator was finally removed 31 days after its first insertion and the patient, who suffered no further bleeding, was discharged with the circumssuture *in situ* a few days later. She was instructed to avoid intercourse for the next three months, after which time the circumssuture was removed. The cervix was reported to appear normal at this time and the patient was menstruating regularly.

Comment

Most authorities recommend immediate hysterectomy in the management of cervical pregnancy, certainly for all cases of over eight weeks' menstrual age.¹ Successful cases of conservative management have been reported,^{2,3} but in none of these was the bleeding of the torrential quantity that we encountered. We report our technique simply because it enabled us to avoid hysterectomy.

Several writers state that cervical pregnancy has been preceded by cervical trauma and specifically by therapeutic abortion,^{4,5} as in this case. It has even been suggested that the incidence may rise from about 1:16 000³ to as many as 1:1000 in communities where a liberal abortion policy is practised.⁵ Presumably a fertilised ovum failing to implant in the endometrium nevertheless finds an attractive nidus within a scarred cervical canal.

This being the case, the above technique, and the understanding that stitch and obturator must be left undisturbed possibly for several weeks, may have a useful place in modern gynaecological practice.

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Contralateral renal artery fibromuscular dysplasia after nephrectomy for renal artery stenosis

Progression of fibromuscular dysplasia of the renal artery in patients presenting with hypertension due to this condition is common.¹ It usually occurs at a site already affected, and we have found no reports of new lesions arising in an unaffected renal artery. We report this sequence of events in a young woman and the problems of management that it caused.

Case report

Our patient was aged 18 when she was admitted to hospital in 1974, complaining of headaches for three weeks. Hypertension during pregnancy