ROYAL SOCIETY OF MEDICINE - 4 AUG 1971

Clinical Section

President Sir Robert Drew KCB CBE FRCP

Meeting May 8 1970
(continued from April 'Proceedings' *p 398)*

Case

Extensive Autonomic Neuropathy in Diabetes

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(for Arnold Bloom MD FRCP)
(Whittington Hospital, London N19)

Mr A McK, aged 46

History: Diabetes mellitus was diagnosed in 1954. He attended regularly for clinic supervision, taking soluble and protamine zinc insulins. Occasional mild hypoglycæmic symptoms were noted, random blood sugars were usually between 120 and 250 mg/100 ml, there were no episodes of ketosis. Phenformin was added with some improvement in blood sugar levels in November 1968.

In December 1968 he complained of the first of several episodes of diarrhœa and faintness. Diarrhœa occurred mainly at night and the stool was watery, never fatty. The attacks were associated with the belching of large volumes of unpleasant-tasting gas and with loud, painless borborygmi. Normal bowel action was re-established after each attack. Phenformin was withdrawn with no improvement in symptoms. He became impotent and on four occasions during the succeeding year he was ill enough to require admission to hospital. He showed marked postural hypotension and fainted several times during attacks. Before one admission he had vomited repeatedly for two weeks, become clinically dehydrated and had a raised blood urea and low plasma sodium. At no time was he ketotic or notably hyperglycæmic. There were no micturition symptoms.

On examination: No cutaneous or mucosal pigmentation. No abdominal masses were palpable. Blood pressure 130/80 lying, 115/80 standing when well; 90/50, 50/30 (without tachycardia) in an attack. Reduced ankle jerks but intact vibration sense. Occasional fundal microaneurysms.

Investigations: Plasma cortisol at 9 a.m. 17·2 µg/100 ml; 30 min after synacthen 29·0 µg/100 ml. Fæcal fat 5·2 g/day. Stool tryptic activity normal. Serum amylase 400 Somogyi units/100 ml on one occasion, others normal.

Barium meals showed moderate residue, slow emptying without evidence of mechanical obstruction and a small sliding hiatus hernia. Small bowel follow through normal; 700 ml of brown fluid were aspirated from the stomach during one admission for vomiting.

Urinary indoles were not raised (during remission of diarrhœa). Sweating could be stimulated only on the upper chest, forearms and around the umbilicus. There was no change in heart rate, as recorded continuously on ECG, during or following Valsalva manœuvre (10 seconds forced expiration supporting 40 mmHg).

Progress: Several attacks of diarrhœa were aborted by oxytetracycline, amphoteracin B mixture (Mysteclin). No attacks have occurred since this combination has been taken regularly. 9-alpha-fluoro hydrocortisone, 0·1 mg b.d., has probably reduced his postural hypotension (Bannister *et al.* 1969). For the past three months he has worked regularly and notes a general improvement in vigour.

Discussion

Postural hypotension is a recognized complication of the loss of circulatory reflexes occurring with diabetic autonomic neuropathy (Sharpey-Schafer & Taylor 1960). The Valsalva technique described by Nathanielsz & Ross (1967) enables one to assess these reflexes without arterial puncture. However, in our patient symptomatic hypotension occurs only following vomiting or diarrhœa and it is suggested that the combination of impaired circulatory reflexes with salt and water depletion is responsible for the fainting.

The diarrhœa is of the type typically associated with diabetic autonomic neuropathy. The response to antibiotics supports the association though the mechanisms are not elucidated (Whalen *et al.* 1969).

Impotence and impaired sweating response to heating are commonly seen in autonomic neuropathy. Bladder function is frequently abnormal (Fagerberg *et al.* 1967) but has not been investigated in the absence of symptoms in our patient.

The association of anorexia, nausea and increased gastric residue with autonomic neuropathic bowel symptoms in diabetes has been likened to the result of vagotomy without drainage operation (Hodges *et al.* 1947); but most patients showing evidence of gastric neuropathy have few symptoms (Zitomer *et al.* 1968). Our patient's vomiting has not recurred since continuous administration of antibiotics (and 9-alpha-fluoro hydrocortisone).

It is notable that, despite incapacitating autonomic neuropathy, our patient has no proteinuria, a few microaneurysms only, no symptoms of peripheral neuropathy and reduced ankle jerks as the only physical sign.

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Meeting December 11 1970

Cases

Porphyria Variegata Presenting as Postpartum Hypertension and Epilepsy

I G Barnett[1] MB (for J G G Ledingham DM FRCP and E Cope MD FRCOG)
(*The Churchill Hospital, Oxford*)

Mrs J F, aged 32. Housewife

History: Migraine for ten years. April 1969: in her second pregnancy, she was treated for 'pre-eclampsia' with amylobarbitone. Hypertension persisted, and five days post partum she had a convulsion. Oliguria developed: urine osmolality 600, plasma 230 mOsm/kg; plasma sodium 113 mEq/l, chloride 84 mEq/l. EEG showed some paroxysmal activity. She improved spontaneously, and was discharged.

A diagnosis of migraine-epilepsy syndrome was made and she was treated with ergotamine. She started taking an oral contraceptive. Because of depression and anxiety she was treated at various times with imipramine, chlordiazepoxide, chlorpromazine, amitriptyline and diazepam.

18.12.69: At her request abdominal sterilization was performed. Blood pressure fell post-operatively to 60 mmHg systolic, and she was given Macrodex and blood. Intermittent severe abdominal pain and electrolyte imbalance suggested paralytic ileus. She developed fever (100°F, 38°C), tachycardia (120/min), profuse sweating, oliguria. On 25.12.69, blood pressure was 190/145, plasma sodium 122 mEq/l, chloride 81 mEq/l. The next day she had a convulsion. Low plasma sodium and chloride, accompanied post partum by low plasma osmolality, suggested inappropriate antidiuretic hormone (ADH) secretion. All known causes of this could be ruled out except acute porphyria. Urine tested for porphobilinogen was strongly positive.

Table 1
Excretion of porphyria precursors and porphyrins (measured by Dr R H Wilkinson, Biochemistry Laboratory, Radcliffe Infirmary, Oxford)

	Urine				*Fæces*	
	Amino-lævulinic acid (mg/l)	*Porpho-bilinogen (mg/l)*	*Copro-porphyrin (μg/l)*	*Uro-porphyrin (μg/l)*	*Copro-porphyrin (μg/g)●*	*Uro-porphyrin (μg/g)●*
J F	16	30	400	1,050	171	269
Adult normals	<4	<2	<300	<30	<20	<30

●dry fæces

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