LETTERS TO THE EDITOR

Permanent cardiac pacing for reflex anoxic seizure

EDITOR,—Reflex anoxic seizure (pallid syncope) is defined as vagally mediated cardiac arrest producing cerebral ischaemia.^{1,2} Recommended treatment consists of parental reassurance that the attacks are benign, with atropinisation in occasional cases.³

Case report

A 3 year old neurodevelopmentally intact girl presented with a history of recurrent anoxic seizures from infancy, which were typically precipitated by minor injury or upset. During the attacks, which could be provoked by eyeball compression, she exhibited a combination of breath holding ('blue attacks') in expiration, with up to 24 seconds of cardiac asystole. On occasion, there was a marked clonic seizure during the recovery phase, and on ambulatory electroencephalographic (EEG) recordings this was associated with bilateral symmetrical cortical discharges. The attacks occurred between 10 and 40 times a day. A trial of atropine had failed to abolish her events, and had produced unacceptable side effects including blurred vision and dry mouth. In February 1995 a temporary ventricular pacing lead was introduced via the femoral vein. Subsequent provocation by eyeball compression was undertaken with continuous video EEG and electrocardiographic (ECG) monitoring, with and without cardiac pacing via an external generator. Without pacing, asystole for 12 seconds occurred, associated with syncope and a 'flat' EEG recording. With pacing (VVI, rate 70 bpm), all components of the attack and EEG changes were abolished. On this evidence, a permanent transvenous ventricular lead was implanted (VVI), with a subpectoral generator. Over the next 12 months, her pallid syncope attacks have been virtually abolished, and she is able to attend nursery school full time. She continues however to have minor episodes of uncertain nature, but without loss of consciousness. Twelve months after permanent pacemaker implant, she attended the cardiac outpatient department for three consecutive days, during which the generator was randomly switched either off or on with the family, patient, and physicians 'blinded'. Several minor events were recorded by the parents in a diary, but without EEG or ECG accompaniments. However, within 36 hours of the pacemaker being turned off, she had a typical reflex asystolic/anoxic event with 23 seconds of asystole accompanied by 'flattening' of the EEG recording followed by high amplitude slow waves. This was the first typical attack after the pacemaker implant.

While typical reflex anoxic seizures are generally benign, fatal and near fatal cases have been reported.⁴ Treatment was required in this case because of failed medical treatment in the face of the severe social and emotional disability caused by the high frequency and severity of attacks. The long term effects of frequent episodes of moderately prolonged cerebral anoxia are unknown.

There are few studies documenting the effectiveness of atropine^{3,4}; however, it may well be that our patient was not completely atropinised despite exhibiting side effects. By eliminating asystole, cardiac pacing has prevented this child from having her usual reflex asystolic/anoxic seizures and has produced a significant improvement in the quality of life for the child and her family.

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Oral anticoagulation nephrotic syndrome

EDITOR,—Tait *et al* highlighted the lack of experience with oral anticoagulation in children.¹ We report the case of a child with congenital nephrotic syndrome complicated by pulmonary embolism where anticoagulation with warfarin proved difficult to control and was abandoned. Variations in the pharmacokinetics of warfarin are postulated that may explain the difficulties we experienced in achieving adequate anticoagulation.

The diagnosis of congenital nephrotic syndrome was confirmed histologically in an infant boy with oedema, proteinuria, and low serum albumin concentration. He was treated with albumin infusions (2 g/kg/day) via a central venous line three times a week and oral frusemide. At 3 months of age he developed an *Enterococcus faecalis* line infection which was treated with intravenous vancomycin. A subsequent episode of tachypnoea, after a blood transfusion, was attributed to multiple pulmonary emboli after an abnormal ventilation-perfusion lung scan. Treatment was initiated with intravenous heparin (110 units/kg/day) for one week then subsequently oral warfarin (100 µg/kg/day). During the second week when three doses of albumin were administered it was not possible to achieve an international normalised ratio (INR) within the target range (2.0-3.0). This was despite increasing the dose of warfarin to 500 µg/kg/day.

An INR within the target range was achieved only during the second week when albumin was not required. Albumin infusions were recommenced during the third week and it then proved impossible to raise the INR above 1.4. Anticoagulation was abandoned after 35 days because the INR could not be stabilised despite large doses of warfarin (100-500 µg/kg/day).

Pulmonary embolism is a well recognised complication of nephrotic syndrome. However, in this case thromboemboli from the infected central line is likely as a thrombus was present on the tip of the line when it was removed.

Warfarin is 99% protein bound and acts by inhibiting the synthesis of vitamin K-dependent clotting factors. Inactive meta-

bolic products from the liver and kidney are excreted in the urine and faeces.²

The variations in the INR after albumin infusions may be a result of: (1) an increase in protein bound warfarin excreted in the urine as part of the on-going proteinuria, (2) a reduction in the unbound fraction of warfarin available to the target sites, (3) a larger circulating blood volume, after the infusion of albumin, leading to an increase in liver and kidney perfusion enhancing drug extraction. However, the latter seems unlikely as warfarin has a low hepatic extraction which is independent of flow.³

This case illustrates some of the problems surrounding warfarin treatment that have to be considered when prescribing the drug in nephrotic syndrome.

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'Tarantula eyes'

EDITOR,—Eye injuries caused by tarantula hairs have been reported in at least six American patients (aged 13-24) in ophthalmological journals.¹⁻³ However, the condition is still not widely recognised. We describe a case of eye injury caused by tarantula hairs in a 9 year old boy.

The boy was admitted with itchy generalised fine macular rash, conjunctivitis, and periorbital oedema. He also had severe itching and a gritty sensation in his eyes. The discomfort caused him to rub his eyes vigorously. An allergic aetiology was assumed and he was treated with topical calamine lotion and oral chlorpheniramine. His skin rash largely subsided overnight and the itching in his eyes improved slightly, but he continued to rub his eyes because of the discomfort.

Ophthalmological examination showed injection of the conjunctivas. Several small tarantula hairs were embedding in his cornea at different levels within the stroma of the right eye and in the mid-stroma of the left eye. His visual acuity was 6/18 on the right and 6/6 on the left. On further questioning, he admitted annoying his Chile Rose tarantula before he developed the painful eyes.

The patient was treated with chloramphenicol eye drops four times a day and oral terfenadine twice a day. His visual acuity was back to normal after one week. However, he was still having considerable discomfort in his right eye associated with an anterior uveitis. A course of prednisolone 1% and cyclopentolate 1% eye drops was given. The topical corticosteroid dose was tapered down over the ensuing four months. Subsequent review showed that his uveitis was controlled with the steroid drops, but the tarantula hairs were still embedding in his cornea.

Tarantulas of the family Theraphosidae are becoming increasingly popular as pets. Con-

trary to popular belief, their venom is generally not very harmful, and bites caused by them are usually not much worse than wasp bites. However, when these animals feel threatened, they quickly flick off clouds of abdominal (urticating) hairs with their legs. These hairs are small, sharply pointed, and covered by hundreds of little hooks. They can cause severe itching when in contact with the skin, especially in the nose and eye regions.¹⁻⁵ Cooke *et al* showed that these urticating hairs can work themselves deep into human skin. They can also migrate into the cornea and cause intense irritation and granulomata formation (ophthalmia nodosa).⁶ The retained hairs cannot be safely removed totally and may persist in the cornea for many months. The main mechanisms of injury are physical irritation and hypersensitivity. However, chemical irritation may also play a part. Treatment is with a prolonged course of corticosteroid eye drops. Antibiotics eye drops and mydratics may also be required.

We recommend that when handling tarantulas they are kept well away from the face and that warning should be given by the pet shops about this potential danger. The wearing of eye goggles and gloves when handling these spiders, whether dead or alive, is advisable.

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WESTMINSTER BRIEFING

The following items are from *Children & Parliament*, June-July 1996. *Children & Parliament* is an abstracting service based on *Hansard* and published fortnightly by the National Children's Bureau while parliament is sitting. It covers all parliamentary business affecting children and is produced in either printed or CD-ROM form. Both are available on subscription from the Library and Information Service, National Children's Bureau, 8 Wakley Street, London EC1V 7QE (tel: +44(0)171 843 6035). (The *Hansard*

reference is given first followed by the issue number and date of *Children & Parliament*.)

In England and Wales in 1995 there were 648 138 live births and 3600 stillbirths. Home births were about 2% of the total and almost 98% were delivered in NHS hospitals. About one in 200 was delivered in a non-NHS hospital or 'elsewhere'.
(10 June 96, Col 21-22; 239,25.06.96)

The number of child and adolescent psychiatrists in the NHS rose from 240 in 1979 to 300 in 1982 and 350 in 1990 but fell again to 330 by 1994. In the same years the number of child psychotherapists was 60, 70, 140, and 220.
(4 June 96, Col 385; 239,25.06.96)

The number of dedicated paediatric intensive care beds in England in 1994 was 196, giving one bed for around 54 000 children under 17. The ratio of beds to children varied from 1:34 296 in North Thames to 1:145 472 in Anglia and Oxford. These figures do not take into account provision for children in adult units or provision outside a region.
(7 June 96, Col 588-589; 239,25.06.96)

The number of women sentenced in English and Welsh courts in 1985 was 143 995; in 1994 it was 185 798. The proportion sentenced for violent offence was just under 3% in both years but the proportion given custodial sentences fell from 2.5% in 1985 to 1.6% in 1994. This was because non-violent offenders were much less likely to be sent to prison in 1994, although in both years just under 10% of violent offenders were imprisoned.
(5 June 96, Col 132-134; 239,25.06.96)

Deaths from solvent abuse have continued to fall; there were 71 in 1993 and 57 in 1994.
(24 June 96, Col 23; 240,9.07.96)

All age asthma mortality has fallen over the last five years but not childhood asthma mortality. Deaths at all ages fell steadily each year, from 3.6 per 100 000 population in 1991 to 2.7 in 1995 but in under 15 year olds mortality was steady at 0.2 to 0.3 per 100 000.
(8 July 96, Col 17; 241,22.07.96)

The Department of Health is currently spending about 6.5 million pounds annually to combat smoking, 5 million on drug and solvent misuse, and 825 000 on alcohol problems.
(1 July 96, Col 336; 241,22.07.96)

Young people in trouble with the courts can expect their cases to be dealt with in about 4.5 months on average. The average time from offence to completion varied in 1995 from 116 days in the north of England to 160 days in London.
(4 July 96, Col 496-498; 241,22.07.96)

Although girls do better than boys at GCSE the difference is much less for A level examinations and, in fact, boys get more

grade A passes at A level while girls get more passes overall. The reasons for these differences are not clear but the Office of National Statistics is to collect more data.
(24 July 96, Col 339-340; 242,6.08.96)

More children are having their tonsils out. The number of tonsillectomies in NHS hospitals in England per 100 000 children under 17 has risen each year since the figures began in 1989, from 449 in 1989-90 to 534 in 1994-5. Over the same period the number of myringotomies has fallen but there has been no consistent change in the number of adenoidectomies (about 160-170 per 100 000 children per year).
(23 July 96, Col 219; 242,06.06.96)

Infant mortality rates in the European Union in 1993 varied from 4.4 per 1000 live births in Finland to 8.7 in Portugal; the UK rate was 6.6.
(16 July 96, Col 492-493; 242,06.08.96)

Perinatal mortality in England and Wales in 1994 varied considerably with the mother's country of birth, from 6.4 if the mother was born in Australia, New Zealand, or Canada to 17.4 if she was born in the Caribbean. For UK born mothers the rate was 8.6 and for mothers from the Indian subcontinent it was 9.3 (India), 10.8 (Bangladesh), and 15.0 (Pakistan).
(16 July 96, Col 454; 242,06.08.96)

Data from Scotland show that, although only 6% of boys and 10% of girls measured at age 15 in 1987 were overweight or obese, by the time they were 18 the figures had risen to 17% and 22%. Obesity (body mass index (BMI) >30) was found in 0.9% of 15 year old boys and 1.6% of 15 year old girls and in 2.1% of boys and 5.7% of girls at 18. Underweight (BMI <20) fell in both sexes (boys 51% to 19%, girls 39% to 22%) between the two ages.
(22 July 96, Col 101-102; 242,06.08.96)

Each year in the 1990s the number of children killed in road cycling accidents in England has been between 37 and 50 and the number of non-fatal cycling injuries between 7349 and 8132. In Scotland there are 3-7 deaths and 462-625 non-fatal injuries per year.
(18 July 96, Col 660 (England); 23 July 96, Col 230 (Scotland); 242,06.08.96)

Some 22% of children in local education authority maintained schools and 13% in grant maintained schools in England are eligible for free school meals.
(22 July 96, Col 59; 242,06.08.96)

In 1993 road fatality rates for children in the European Union varied from 5.2 pedestrian and 2.3 car passenger deaths per 100 000 population in Portugal to 0.4 (pedestrian) and 0.9 (passenger) in Sweden. The rates for Great Britain were 1.4 (pedestrian) and 0.7 (passenger). The fall in total deaths from 3 to 2 per 100 000 in Great Britain between 1990 and 1994 has been largely due to a decrease in pedestrian fatalities.
(23 July 96, Col 153-154; 242,06.08.96)