of pain. The latter is often caused by psychosexual problems with no obvious organic cause. There is, however, a group of patients presenting with dyspareunia who have a well-defined lesion—a short frenulum that becomes painfully tight on erection and that may be cured by circumcision.

The existence of a short frenulum is noted in few urological textbooks and then usually in relation to prepucial adhesions in the child.[1] The normal frenulum is a mucous membrane on the ventral surface of the glans penis, through which runs the frenular artery. A short frenulum may apparently be congenital, when it is of normal thickness, or secondary to recurrent infection or trauma, when it can be felt in the flaccid state as a thickened band. When the penis is erect the short frenulum restricts the prepuce and causes downward curvation of the glans.[2] During intercourse this means that there is an element of chordee and the abnormal position of the glans penis causes pain. Tension in the short frenulum itself is also painful and the band may be torn and then heal by fibrosis, thus aggravating the condition.

Case histories

A retrospective survey of adult circumcision performed at the Churchill Hospital under the care of three general surgeons in 1975 and 1976 showed that 48 had been performed (see table), with an age range of 16 to 68 years (mean 29). The commonest indication, not unexpectedly, was phimosis (25); but the problem posed by a short frenulum was found to be the next most common (10). The patients in the latter group were contacted and asked to fill in a questionnaire stating the reasons for their first seeking advice and the result of their operation. Nine replied stating that they had had no further problems, specifically noting that they had had no pain on intercourse since circumcision. The one who did not reply has not sought further advice about dyspareunia from his general practitioner.

Indications for circumcision in 48 patients 1975-6 and number with pain on intercourse

	Hygiene	Para-phimosis	Phimosis	Phimosis and balanitis	Balanitis alone	Short frenulum
No of cases	3	2	25	6	2	10
No with pain on intercourse ..			10	3		10

Comment

As may be seen from the table, male dyspareunia is not uncommon and attention has been increasingly drawn to it as a cause of difficulty with sexual relationships, notably by Masters and Johnson.[3] In their chapter on male dyspareunia they cite phimosis and lack of personal hygiene as the main contributing causes. They also draw attention to the abnormal sensitivity of the glans penis to pH, for example, and emphasise the well-recognised problems associated with hypospadias and chordee. They do not mention the problem of a short frenulum.

Short frenulum was an important reason for male dyspareunia in this series. Circumcision apparently completely alleviated symptoms, with a correspondingly grateful patient. Complete or formal circumcision is necessary, however, for simple division or attempts at Z-plasty on the frenulum may leave residual scarring and therefore sufficient tightness to cause further symptoms. Short frenulum should be sought as a cause of dyspareunia in patients who do not have phimosis or questionable hygiene and who may erroneously be labelled as having psychosexual problems.

I wish to thank Mr M H Gough as the initiator of the study and also for his permission to report cases admitted under his care; Mr N E Dudley and Mr C U Webster for permission to report cases under their care; and Mrs Freda Knight for her tireless work in the typing of this manuscript.

[1] Campbell, M F, and Harrison, J H, *Urology*, 3rd edn, p 1536. London, W B Saunders, 1970.
[2] Campbell, M F, and Harrison, J H, *Urology*, 3rd edn, p 1835. London, W B Saunders, 1970.
[3] Masters, W H, and Johnson, V E, *Human Sexual Inadequacy*, p 289. London, J and A Churchill Ltd, 1970.

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Churchill Hospital, Oxford OX3 7LJ
PETER WHELAN, FRCS, surgical registrar

Dry beriberi in a slimmer

In Europe beriberi is usually found among alcoholics, in whom it occurs mainly in the wet form.[1] We report here severe dry beriberi in a schoolgirl who reduced her weight by 44 kg in four months. To our knowledge slimmer's beriberi has not been reported before.

Case report

A 17-year-old schoolgirl with no personal or family history of neurological disease had been suffering from obesity for many years. After reaching 104 kg (at a height of 167 cm) in August 1976 she firmly decided to start a slimming diet planned by herself. In the beginning it consisted of one fruit (orange, mandarine, pear, or banana) and one egg every day. After a month she abandoned the eggs. Besides fasting she also restricted drinking. The strict diet was effective: after four months her weight had fallen to 60 kg. Having reached this goal, she started to take normal meals again from 10 December 1976. During the last days of fasting she had noticed slight weakness and numbness in the extremities. The symptoms worsened over a few days and culminated after a week in total paralysis of all four limbs. She was admitted to Oulu University Central Hospital on 13 December 1976, where she was bedridden.

She was found to have a severe distally aggravating polyneuropathy. The radial and peroneal nerves were the worst affected: she had wrist drop and foot drop. Tendon reflexes were absent in her feet. Slight one-sided facial paralysis was found, but this disappeared in a few days. Sensory neuropathy manifested itself in the form of a weakened posture and vibration sensibility in the distal parts of the extremities. Her mental state and functions were unaffected, and no other abnormal physical signs were found. Total amenorrhoea was an additional complication, but the cause was obscure because the patient also took oral contraceptives.

Various laboratory tests were performed to exclude known causes of polyneuropathy, but only thiamine deficiency could be found. The only other abnormality was slightly raised aspartate and alanine transaminase concentrations, which became normal eight weeks later. The cerebrospinal fluid was normal. No disturbances were seen on malabsorption tests, and serum pyruvate concentrations were normal two weeks after admission. Beriberi had been diagnosed clinically on admission and was confirmed by serum vitamin measurements (see table).

Serum vitamin concentrations

Vitamin	Before treatment	During treatment	Normal values
Thiamine (μg/ml)	0·006	0·027	0·01*
Riboflavin (μg/ml)	0·035	0·07	0·06*
Pyridoxine (μg/ml)	0·02	0·08	0·02*
Vitamin B_{12} (pmol/l)	425		100–500
Vitamin A (μmol/l)	0·8	1·3	0·4–1·4
Folic acid (nmol/l)	8·6–5·8		6–22

*Mean value of 15 other hospital patients.
Conversion: SI to traditional units—Vitamin B_{12}: 1 pmol/l ≈ 0·14 ng/100 ml. Vitamin A: 1 μmol/l ≈ 28 μg/100 ml. Folic acid: 1 nmol/l ≈ 44 ng/100 ml.

No gynaecological abnormalities were noticed, and excretion of female sex hormones was normal. Neuro-ophthalmological examinations showed no pathological signs (which would have been expected had the patient had Strachan's syndrome).[2] Psychological investigations showed average cognitive capacity without abnormalities of personality. An electroencephalogram (EEG) and electroretinogram (ERG) were normal, and measurement of visual evoked potentials (VEP) and quantitative EEG analysis gave normal results. Electroneuromyography showed considerable axonal degeneration in both peripheral motor and sensory nerves, and pathological delay was found in the partially affected facial nerve.

The patient was treated with multivitamin preparations and intensive physiotherapy. Both the motor and sensory symptoms responded to treatment but recovery was slow. In 10 weeks she could walk with crutches. After five months peroneal nerve functions were only slightly repaired and she still needed a walking stick. Lower extremity tendon reflexes remained inelicitable. The patient could not write until after three months, but after five months the functions of her hands were normal. Sensory disturbances appeared more persistent and were still pronounced after five months.

After five months EEG and ERG-VEP studies were normal. Electroneuromyography showed slight progress toward recovery in the motor nerves, but the sensory nerve functions had not improved at all.

Comment

The history suggested a nutritional polyneuropathy in this patient, and her clinical state, with distally aggravating polyneuropathy, agreed well with a diagnosis of dry beriberi. The diagnosis was confirmed by the results of serum vitamin measurements and by excluding other factors known to cause polyneuropathy. We did not

determine the erythrocyte transketolase (ETK) activity or thiamine pyrophosphate (TPP) effect on admission, or thiamine excretion. Tanphaichitr *et al*[3] state that thiamine excretion alone is not a good index of the state of thiamine nutrition in an individual subject. The absence of cardiac and central nervous system manifestations may be explained partially by the fact that the patient restricted drinking and did not increase the amount of physical exercise that she took.

The potential threat of dry and wet beriberi should be kept in mind if a patient begins a strict slimming diet. Multivitamin preparations are indicated in treating the condition, but a reasonably composed diet is of primary importance.

We thank Professor Eero Hokkanen for his help in writing this report and Associate Professor Timo Kosunen for the serum B vitamin measurements.

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[2] Vinken, P J, and Bruyn, G W (ed), *Handbook of Clinical Neurology*, vol 28, p 1-41, 49-57. Amsterdam, Elsevier-North-Holland, 1976.
[3] Tanphaichitr, V, *et al*, *American Journal of Clinical Nutrition*, 1970, **23**, 1017.

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University of Oulu, Oulu, Finland
K A SOTANIEMI, MD, resident neurologist
K KAARELA, MD, internist, department of internal medicine

Acute poisoning with Potter's Asthma Remedy

There has been recent concern in the press[1] about the increasing abuse of the popular nostrum Potter's Asthma Remedy (Potter and Clarke, Warlingham, Surrey). The active constituent of this mixture is stramonium, derived from the vegetable alkaloid contained in thorn-apple leaves (*Datura stramonium*), equivalent to 0·12% w/w of alkaloids calculated as hyoscyamine. It is sold as a brown powder, in a 90-g tin, the burning and inhalation of which is reputed to have beneficial effects on asthma. We report four cases of deliberate ingestion of this preparation because of its hallucinogenic effects.

Case reports

Case 1—A 16-year-old unemployed youth was admitted to hospital after an emergency call. He was hallucinating, with slurred speech, and was semiconscious, flushed, feverish, and responded to pain, but not to commands. Respiratory excursions were increased with a respiratory rate of 40/min. The pulse rate was 130/min with frequent atrial extrasystoles. His pupils were widely dilated and responded sluggishly to light; his limbs were flaccid with brisk tendon reflexes and extensor plantar responses. There was no neck stiffness. Urgent inquiries among his friends elicited the information that he had drunk half a tin of Potter's Asthma Remedy, mixed with tea, two hours before. As a result of the inquiries cases 2, 3, and 4 also presented.

Cases 2, 3, and 4—These were friends of the first patient. They admitted to having consumed smaller amounts of the offending substance, and they showed the autonomic side effects of alkaloid ingestion without central manifestations. They had the typical features of atropine-like toxicity—mydriasis, blurred vision, dry mouth, and tachycardia. They were observed overnight without specific treatment, and discharged the next day.

The first patient underwent gastric aspiration and lavage and was given physostigmine salicylate 2 mg intramuscularly two-hourly to a total of six doses. He did not require endotracheal intubation or assisted ventilation. Cardiac monitoring was carried out, and a sinus tachycardia, but no further ectopic beats, was recorded. He gradually regained consciousness, and could obey commands after six hours. He was fully recovered 18 hours after admission, and was discharged two days later.

Comment

Signs of alkaloid overdosage were dramatically described in 1939 as "hot as a hare, blind as a bat, dry as a bone, red as a beet, and mad as a hen."[2] Our first patient had blurred vision, rapid respiration, tachycardia, confusion, excitement, and coma. The suggested treatment is gastric lavage, sedation with a short-acting barbiturate if necessary, and physostigmine salicylate 1-2 mg intramuscularly or intravenously every 1-2 hours. Oxygen and assisted respiration may be necessary. Neostigmine is of doubtful value, as it does not gain entry to the central nervous system.

Some 10 years ago there were reports from North America on misuse of substances containing stramonium,[3] and recently two reports on the ingestion of asthma cigarettes in Edinburgh and King's Lynn.[4 5] Apparently the misuse of this proprietary preparation is now sufficiently widespread in Britain for the substance to be named "goon dust" in certain circles. A disturbing feature is that one of our patients stated that a front-page article in the press had given them the idea of experimenting with the compound.[1] Review of our hospital records showed that four other cases of ingestion of "Potter's Asthma Remedy" had been admitted in the past four months. These were teenagers taking the drug for "kicks."

As there is concern about possible exploitation of this substance through "underground" channels[1] and its continuing availability, we felt that these case reports and records of treatment might be of value.

[1] *Sunday People*, 26 June 1977.
[2] Morton, H G, *et al*, *Journal of Pediatrics*, 1939, **14**, 755.
[3] Wilcox, W P, *New England Journal of Medicine*, 1967, **277**, 1209.
[4] Harrison, E A, *et al*, *British Medical Journal*, 1976, **2**, 1195.
[5] Ballantyne, A, *et al*, *British Medical Journal*, 1976, **2**, 1539.

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Walsgrave Hospital, Coventry CV2 2DX
A H BARNETT, BSC, MB, senior house officer in medicine
F W JONES, BSC, MB, house officer in medicine
E R WILLIAMS, MD, MRCP, consultant physician

Heart disease in life-long cyclists

The place of exercise in preventing heart disease remains uncertain.[1 2] I thought that a survey of one of the cycling organisations catering for older cyclists would be of interest. Cycling tourists are a unique group as they tend to start young and many can and do continue into old age.

Subjects, methods, and results

The subjects were members of the Fellowship of Cycling Old Timers (FCOT), which was chosen arbitrarily, and the study was by questionnaire. The club was formed in 1965 for cyclists aged over 50 years. There was an 89·5% response to the 329 forms sent to live members, all but one in the British Isles, and most in England. Details of the cause of death of dead members (23) were obtained from death certificates. Women (12) were excluded from the study. No members had resigned at the time of the study (1973).

The pattern of activity that emerged was 5000-10 000 cycling miles a year in the early years, which fell to 2000 miles in later years. Seventy five per cent of members were still cycling regularly throughout the year, and 54 of the over-70s were cycling once a week or more throughout the year. A positive family history of heart disease was found in 45 cases. Only 23 members

Incidence and episodes of ischaemic heart disease and myocardial infarction in cyclists compared with equivalent age groups in National Morbidity Study (1971). (NMS figures in parentheses)

	45–64	65–74	≥75
No of cyclists	89 (33 182)	137 (9332)	56 (4388)
No of years at risk	252 (33 182)	426 (9332)	253 (4388)
Episodes of myocardial infarction	1 (384)	5 (179)	1 (80)
Episodes of ischaemic heart disease:			
Type I*	1 (586)	3 (294)	0 (151)
Type II†	1 (544)	8 (340)	1 (178)
Incidence of myocardial infarction:			
Per 1000 cyclist/year	3·9	11·7	4·0
Per 1000 patient/year	11·5	19·2	18·2
Incidence of all ischaemic heart disease†	3·9 (16·3)	18·7 (36·4)	4·0 (40·5)

*Episode occurring before study, as defined in NMS.
†Episode occurring during study, as defined in NMS.