

We thank Dr B K Mandal, consultant physician, for permission to report this case and Dr R H MacDonald, consultant dermatologist, for the histological examination of the skin biopsy specimen.

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**Regional Department of Infectious Diseases and Tropical Medicine,  
Monsall Hospital, Manchester M10 8WR**

K U WRIGHT, BSC, MB, house physician  
M E ELLIS, MRCP, DCH, consultant physician

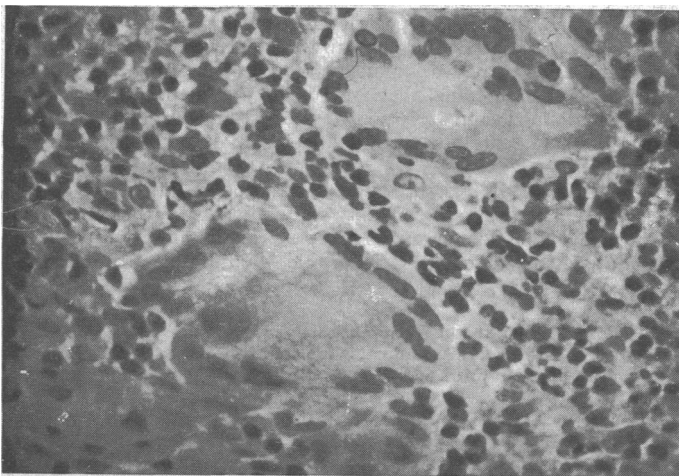
Correspondence to: Dr Ellis.

## Epididymal lesion in tuberculoid leprosy

Epididymal lesions are well recognised in tuberculosis,<sup>1</sup> lepromatous leprosy,<sup>2</sup> genital gonorrhoea,<sup>1</sup> and sarcoidosis.<sup>3</sup> They have not, however, been documented in tuberculoid leprosy. We report on a patient with an epididymal lesion who is thought to have had tuberculoid leprosy.

### Case report

A 25 year old Indian man presented at the dermatology clinic. He complained of skin lesions on the forehead, right thigh, and left scrotal area, all of which had shown loss of sensation during the previous year. For six months he



Epididymal section showing large giant cells and non-caseating granulomas.  $\times 300$  (original magnification).

had noticed loss of hair on these sites and a painless nodular swelling in the right testis. Topical drugs for skin lesions were unsuccessful.

Cutaneous examination showed plaque like lesions on the forehead, right thigh, and left side of the scrotum, which varied in size. The lesions had dry and scaly surfaces with sharply raised margins. The centres of the lesions were hypopigmented. Hair growth and sensation in the lesions were lost. A thickened auricular nerve was palpable on the left side of the neck. A painless nodular mass was palpable at the lower pole of the right epididymis. Both testicles were normal in size and shape, but sensation was impaired.

Routine tests of blood and urine yielded normal results. Erythrocyte sedimentation rate was 17 mm in the first hour (Westergren method). Results of a serological test for syphilis were negative, hormonal assay for testosterone yielded normal results, and a chest radiograph was normal. Spermography showed a low sperm count. Bacteriological examination of a urethral specimen showed no growth of micro-organisms. A slit smear examination and nasal scraping gave negative results for acid fast bacilli, and results of a lepromin test were strongly positive. Histological examination of skin showed gross enlargement of nerves (to over 500  $\mu$ ) by granulomas and erosion of the dermis. The giant cells were particularly striking because of their size and multinuclearity. Epididymal tissue had non-caseating granulomas similar to those in the skin and with the same large giant cells (figure). Acid fast bacilli were not present in these sections. Biopsy of the epididymis showed some oedema in and around the granulomas. This picture was consistent with tuberculoid leprosy. A testicular biopsy specimen showed a normal pattern.

He was treated with dapsone 100 mg daily by mouth and clofazimine 100 mg three times a week and was asked to report for further evaluation after three months.

### Comment

The presence of large giant cells and epithelioid cells in epididymal tissue without central caseation is suggestive of tuberculoid leprosy rather than tuberculosis (S Lucas, D Ridley, personal communication). This diagnosis was further corroborated by the classical skin lesions with thickened nerves and positive results of a lepromin test. Lepromatous leprosy could be excluded on the basis of the histological examination of epididymal tissue and the absence of *Mycobacterium leprae* in a nasal scraping and on slit smear examination. Thus this is perhaps the first report describing an epididymal lesion in a patient with tuberculoid leprosy.

We thank the department of pathology at this hospital, and Dr S Lucas and Dr D Ridley for their comments on histopathological sections of skin and epididymis.

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**King Khalid University Hospital, College of Medicine, King Saud University, PO Box 2925, Riyadh 11461, Saudi Arabia**

S S PAREEK, MB, DVD, lecturer in charge  
R C TANDON, MB, FRCS, consultant surgeon

Correspondence to: Dr S Pareek, Department of Dermatovenereology.

## Acute respiratory obstruction caused by ingestion of a caustic substance

Causes of acute laryngeal oedema other than infection include abuse of the voice, accidental or surgical trauma, irritating chemicals in gaseous form, thermal injury from inhalation of hot gases, ionising radiation, and allergic reaction.<sup>1</sup> Ingestion of caustic substances is a well known cause of pharyngeal and oesophageal trauma, but it should also be recognised as potentially dangerous to the airway, particularly in infants.

### Case report

A 7 month old boy was admitted having woken distressed and vomiting. He had swallowed a sterilising tablet of the type commonly used in cleaning babies' bottles, which had been given to him by his 3 year old sister. His mother described the vomit as smelling of bleach and said that it had removed some of the colour from his clothes. On admission he showed acute respiratory distress with inspiratory stridor and intercostal and sternal recession. Intravenous hydrocortisone 100 mg was given, and in view of his obviously deteriorating condition he was taken to the operating theatre under the supervision of a consultant anaesthetist and otolaryngologist. Emergency endotracheal intubation was necessary. Laryngoscopy after the airway had been secured showed gross oedema of the soft tissues of the

pharynx and of the epiglottis, which prevented an adequate view of the vocal cords. Tracheotomy was performed; the trachea looked normal, and a 5.5 mm Shiley tracheostomy tube was inserted.

The child was nursed in the intensive therapy unit but refused to feed during the next 48 hours. Further endoscopy showed a large, sloughing ulcer covering two thirds of the epiglottis. There was a similar ulcer in the midline of the posterior pharyngeal wall, extending as far as the cricopharynx. The vocal cords and oesophagus were normal. A nasogastric tube was passed for feeding and the tracheostomy tube reduced to 3.5 mm. Decannulation was performed 48 hours later. Oral feeding restarted at 10 days, and he was discharged 12 days after admission.

### Comment

Various corrosive substances are swallowed accidentally, chiefly by children. It is usually the epiglottis and arytenoids that suffer as the caustic bolus passes through the hypopharynx. In this case the ingested tablet contained dichloroisocyanurate, a substance that releases sodium hypochlorite when it comes into contact with water in an exothermic reaction. The tablet is made with bicarbonate and therefore effervesces. The observed mucosal damage was caused by a combination of the caustic effect of the tablet and the heat generated locally as the chemical reaction took place. The degree of mucosal oedema of the epiglottis was sufficient to cause an acute respiratory obstruction in the larynx of a small child.

If poisoning is recognised early a milk drink is the best first aid, as organic materials bind rapidly with hypochlorite and act as a demulcent. In the event of poisoning with corrosive substances in babies and small children the patient should be admitted to hospital and should remain under careful surveillance, particular attention being paid to the airway. The help of an experienced anaesthetist and otolaryngologist should be sought at an early stage.

I thank Mr R M England for permission to report his case.

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**Department of Otolaryngology, Mount Vernon Hospital, Northwood, Middlesex**

D C WILLIAMS, FRCS, senior registrar

Correspondence to: Mr D C Williams, Ear, Nose, and Throat Department, Royal Air Force Hospital, Wegberg BFPO 40.

## Do locum duties help or hinder acquisition of clinical knowledge by final year medical students?

It is a longstanding practice in British medical schools to encourage final year medical students to support the clinical service by undertaking poorly paid locum duties under specific guidelines laid down by the BMA and the Department of Health and Social Security.<sup>1,2</sup> It is not known, however, whether this practical experience has any beneficial or even adverse influence on formal assessments, which remain essential for qualification. We report an investigation of the relation of the timing and duration of locum duties to an objective measure of factual knowledge (by a multiple choice question paper) and to clinical assessment in final year students in surgery.

### Methods and results

The study comprised 154 final year Birmingham medical students. Each student had spent five months of the first clinical year on a surgical firm and had been assessed (a) on clinical performance, (b) by clinical examination, and (c) by written case histories. These marks were combined to give an unweighted summary score ("track record"). In the final year students undergo a 10 week surgical attachment divided equally between two firms, ending with a multiple choice question paper marked by computer. In addition, a grade (1-5) is given by each consultant (S1,S2) based on perceived competence, diligence, and knowledge. During this attachment a student may undertake locum duties, and the timing and duration of each such duty was recorded for each student.

Multiple regression analysis<sup>3</sup> was used to explore the relation between the normalised score on the multiple choice question paper (dependent variable) and track record, timing and duration of locums, and final year surgical group. The relation of assessments S1 and S2 to locum duties was examined by analysis of variance.

Track record in the junior surgical attachment was a highly significant predictor of score in the multiple choice examination in the final year surgical period ( $p < 0.001$ ), though accounting for only 8% of the variation in the latter ( $R^2$ ). The table shows the unadjusted mean (SD) scores in relation to duration of locum duties. Multiple regression analysis showed no significant association between duration of locum duties and score in the multiple choice examination ( $p = 0.3$ ), nor any effect of locum duties undertaken in the

*Mean normalised scores in multiple choice question paper in relation to number of weeks of locum duty undertaken*

	Weeks of locum duty				
	0	1	2	3	4
No of students	45	41	37	21	10
Mean score (SD)	51.6 (10.2)	49.3 (9.1)	49.1 (9.6)	49.8 (10.9)	49.3 (12.7)

five weeks preceding the examination, when past academic record had been taken into account. Interestingly, the score was positively associated with the contemporaneous S2 clinical assessment ( $p < 0.01$ ) but less convincingly related to S1 ( $p = 0.05$ ). Neither S1 nor S2 was associated with performance of locum duties during the corresponding five week periods of attachment.

Of 139 students (90.3%) completing a questionnaire, 136 (97.8%) thought that time spent as a locum facilitated the transition between medical student and house officer, though 30 (21.6%) had accepted locum work reluctantly because of a service need. Most students (51.5%) wrongly believed that locum duties would influence their examination performance.

### Comment

The highly significant association between junior clinical assessments and score in the final year multiple choice paper indicates a reassuring concurrence of these diverse methods of evaluating performance, though it is notable that over 90% of the variation in score was not accounted for by track record. Locum duties, even when examined in several ways, were consistently neutral with regard to performance in the multiple choice examination and to final year consultant assessments. In relation to factual knowledge, as examined by the multiple choice paper, periods of up to four weeks out of 10 spent fulfilling a clinical service provide neither help nor hindrance. While other assets such as confidence and insight may be acquired during locum work, these appear not to be measurable by examination or personal assessment. Our concern was to establish whether or not locum duties had any bearing on the accumulation of surgical knowledge. Having ascertained that they do not, we believe that current policy restricting locum duties to two weeks seems arbitrary, though of course we cannot extrapolate our data to locum duties in excess of four weeks in total.

This study should reassure students that locum duties will neither facilitate nor prejudice their ability to qualify. As teachers, we must acknowledge that locum duties have no measurable effect on our current assessments and debate the role of clinical service in undergraduate training.

We are indebted to the Birmingham medical graduates of June 1984 and to the Board of Undergraduate Studies, Birmingham Medical School, for their cooperation in this study.

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### University of Birmingham

M GOLDMAN, FRCS, lecturer in surgery

M X GANNON, FRCS, research fellow in surgery

### University of Leicester

K L WOODS, MD, MRCP, senior lecturer in clinical pharmacology

Correspondence to: Mr M Goldman, Department of Surgery, Queen Elizabeth Hospital, Edgbaston, Birmingham B15 2TH.