

higher frequency range of the hearing spectrum, and there is therefore a theoretical risk that a child with appreciable low frequency deafness (which could adversely affect speech and language development) may have a normal result with this test. Such a child could be passed as having normal hearing.

We performed a retrospective analysis of brain stem evoked audiometry carried out in Wolverhampton since 1985. We found two children in whom low frequency loss was not initially detected as the test gave a normal result. Both children had speech and language delay and required amplification, they were eventually fitted with hearing aids.

We suggest that infants who are considered at high risk for deafness should be followed up until it is established that their hearing is normal, irrespective of the result of brain stem evoked audiometry.

R T SHORTRIDGE
N BULMER

Royal Hospital,
Wolverhampton WV2 1BT

1 Wild NJ, Sheppard S, Smithells RW, Holzel H, Jones G. Delayed detection of congenital hearing loss in high risk infants. *BMJ* 1990;301:903-4. (20 October.)

Free tobacco promotion

SIR,—Dr Martin Raw finds it odd that the Health Education Authority should propose extending the voluntary agreement between the government and the tobacco industry on sports sponsorship “when it has been shown that such agreements don’t work.”¹

The report’s purpose is to show that the present voluntary agreement is both being breached and defective. The government is, at present, committed to voluntary agreements, and thus the report recommends that action should be taken to remedy the breaches and defects in the agreement to curtail the promotion of tobacco on BBC television programmes. Our longer term aim, however, is that there should be a total ban on all advertising, promotion, and sponsorship of cigarettes, tobacco products, and products bearing their brand names. To really work, this ban must be worldwide.

SPENCER HAGARD

Health Education Authority,
London WC1H 9TX

1 Raw M. Massive free BBC tobacco promotion. *BMJ* 1990;301:1061. (10 November.)

Do streptococci cause toxic shock?

SIR,—Dr Phillip Sanderson’s editorial highlights several recent reports from the United States that implicate streptococcal pyrogenic exotoxin in the pathogenesis of a toxic shock syndrome.¹ In contrast a United Kingdom based survey found that severe streptococcal infection was usually associated with group A strains that produce exotoxin B; none of the strains tested produced exotoxin A.² We suggest that strains producing exotoxin B are also capable of producing a toxic shock syndrome, which in the United Kingdom may be an important form of this condition.

Septic scarlet fever was defined by Christie and Bisno as extrafacial scarlet fever associated with septicaemia.^{3,4} We recently reported three such cases that were associated with cellulitis due to *Streptococcus pyogenes* group A (serotype M1/T1/OF—) in healthy young adults.⁵ Organ failure occurred in each case, and despite prompt treatment two of the patients died. The crucial early clinical sign in all of the cases was punctate

erythema, which spread rapidly to cover the entire body and which was most intense in the folds of the axilla, elbows, and knees; the rash was typical of scarlet fever. Desquamation of the skin over the palms of the hands and the soles of the feet as well as desquamation of the tongue also occurred but at a much later stage. Such a fine punctate erythema can easily be missed, be labelled as a toxic erythema, or be misclassified as a drug rash. As a result the appropriate serological streptococcal investigations may not be pursued.

Streptococcal pyrogenic exotoxin B was subsequently detected in the plasma from two of the three patients. No exotoxin A was detected. The minimum pyrogenic dose of exotoxin B is at least four times higher than that of either exotoxin A or exotoxin C, and exotoxin B does not enhance lethal endotoxin shock as well as exotoxins A and C.⁶ This suggests that exotoxin B is intrinsically or biologically less active than exotoxins A and C, and that it may thus produce a much wider spectrum of clinical syndromes than that associated with exotoxin A.

We followed the standard recommendation and used high dose intravenous benzylpenicillin (12 million units/day) as primary treatment. Nevertheless, in one patient *S pyogenes* group A was isolated from a blood culture taken 48 hours after starting benzylpenicillin. Although toxin production undoubtedly contributed to the epithelial changes, conjunctivitis, and multiorgan failure in our patients, the Eagle effect may also have contributed to the high mortality. Eagle showed that the efficacy of penicillin falls as the number of *S pyogenes* organisms in muscle increases, such that it can become ineffective.^{7,9} Clindamycin and to a lesser extent erythromycin are not adversely affected by the Eagle effect.

We suggest that doctors should consider changing from benzylpenicillin to clindamycin or erythromycin at an early stage of treatment with benzylpenicillin if the patient does not show a prompt improvement.

SUNIL SHAUNAK

St Mary’s Hospital Medical School,
London W2 1PG

A M GORDON

All Saint’s Hospital,
Chatham ME4 5NG

- 1 Sanderson P. Do streptococci cause toxic shock? *BMJ* 1990;301:1006-7. (3 November.)
- 2 Gaworzewska ET, Hallas G. Group A streptococcal infections and a toxic shock like syndrome. *N Engl J Med* 1989;321:1546.
- 3 Christie AB. *Infectious diseases*. Edinburgh: Churchill Livingstone, 1987:1281-8.
- 4 Bisno AL. *Streptococcus pyogenes*. In: Mandell GL, Douglas RG, Bennett JE, eds. *Principles and practice of infectious diseases*. New York: Wiley, 1985:1124-33.
- 5 Shaunak S, Wendon J, Monteil M, Gordon AM. Septic scarlet fever due to *Streptococcus pyogenes* cellulitis. *Q J Med* 1988;69:921-5.
- 6 Barsumian EL, Cunningham CM, Schlievert PM, Watson DW. Heterogeneity of group A streptococcal pyrogenic exotoxin B. *Infect Immun* 1978;20:512-8.
- 7 Eagle H. Experimental approach to the problem of treatment failure with penicillin. 1. Group A streptococcal infection in mice. *Am J Med* 1952;13:389-99.
- 8 Stevens DL, Gibbons AE, Bergstrom R, Winn V. The Eagle effect revisited: efficacy of clindamycin, erythromycin, and penicillin in the treatment of streptococcal myositis. *J Infect Dis* 1988;158:23-8.
- 9 Fried M, Rudensky B, Golan J, et al. Severe cellulitis caused by Group A streptococcus. *J Infect Dis* 1990;161:155.

A painful process

SIR,—Dr A Nicol recommends that necropsy should become routine practice.¹ Although most pathologists recognise the value of the necropsy,² the rate of necropsy remains low.³

In Peterborough, where the rate is 15%, a questionnaire was sent to all consultants in medicine, surgery, and geriatrics, and to their house officers, including senior house officers. The questionnaire included questions about attitudes to necropsy and to the requesting of permission

from relatives of the deceased. Fourteen consultants and 25 juniors took part.

Of the consultants (six surgeons, five physicians, three geriatricians), all said that necropsy was important; one believed that it was important in only some cases. Six said that they wanted necropsies after all deaths, most said that they would like necropsies after around half, and one said only if the diagnosis was in doubt. Eight thought that juniors experienced difficulties in asking for necropsies, five thought that juniors had received some instruction in these matters, nine said that they offered tuition or guidance, and nine thought juniors would like or needed more instruction. All thought requests for necropsy should be made by medical staff; all but two said the house officer, with or without senior staff. Only one thought a bereavement councillor should be included.

All 25 juniors recognised the value of the necropsy. Most requested two or three a month, and estimates of refusal rates ranged from none to 100% with an average of 48%. Twelve thought that necropsies should be requested by the house officer alone, seven by the house officer or senior staff, or both, four by senior staff alone, and one by a bereavement councillor alone. Many thought that, as house officers, they had the closest relationship with the patient’s relatives.

Eleven house officers experienced some difficulty in requesting necropsy. Seventeen said that they had received no help or instruction, and 18 said that they would like more guidance. Two, both Moslems, had religious objections to necropsy, and one of them actively discouraged relatives.

The main point to emerge is that although both house officers and consultants acknowledged the value of the necropsy and accepted the role of junior staff in seeking permission, a need exists for more structured guidance and support by senior staff if a higher necropsy rate is to be attained.

M D HARRIS

Addenbrooke’s Hospital,
Cambridge CB2 2QQ

- 1 Nicol A. A painful process. *BMJ* 1990;301:1165. (17 November.)
- 2 McGoogan E. The autopsy and clinical diagnosis. *J R Coll Physicians Lond* 1984;18:240-3.
- 3 Chana J, Rhys-Maitland R, Hon P, Scott P, Thomas C, Hopkins A. Who asks permission for an autopsy? *J R Coll Physicians Lond* 1990;24:185-8.

Using the citation index to assess performance

SIR,—We would like to endorse the cautionary remarks regarding citation analyses made by Dr Bernard Dixon.¹ As librarians we are aware of the value of citation indices for judging the importance of a journal when faced with decisions for “deselection” because of shrinking budgets.² We are, however, alarmed at the misuse of citation analyses in making value judgments on individuals.

The main danger lies in extrapolating from the importance of a cited article or journal to the importance of the author or authors. It is the contents of a particular article that have prompted others to cite it, and the reasons for citing it are numerous.^{3,4} Citation behaviour is, on the whole, “uneven, unpredictable, and biased.”⁵ Citation analyses are a measure of past performance for a particular year. They do not necessarily reflect the present ability or future potential of all the authors who have published in that year. It may even be misleading to judge a journal’s importance or future impact by citation performance unless its performance is examined over several years.

We have found that doctors and researchers, prodded by administrators and accreditation committees, use the impact factor for the previous year as a method for choosing the journal to which they will send their articles. This approach engenders a