

to carry out an audit study of their department, of which this study is a part; and the doctors, secretaries, and patients whose cooperation made this study possible.

References

- Anonymous. Psychiatric illness among medical patients [Editorial]. *Lancet* 1979;ii:478-9.
- Knights EB, Folstein MF. Unsuspected emotional and cognitive disturbance in medical patients. *Ann Intern Med* 1977;87:723-4.
- Maguire GP, Julier DL, Hawton KE, Bancroft JHJ. Psychiatric morbidity and referral on two general medical wards. *Br Med J* 1974;i:268-70.
- Moffic HS, Paykel ES. Depression in medical in-patients. *Br J Psychiatry* 1975;126:446-53.
- Brody DS. Physician recognition of behavioural, psychological and social aspects of medical care. *Arch Intern Med* 1980;140:1286-9.
- Schwab JJ, Bialow M, Brown J, Holzer CE. Diagnosing depression in medical in-patients. *Ann Intern Med* 1967;67:695-707.
- Nielsen AC, William TA. Depression in ambulatory medical patients. *Arch Gen Psychiatry* 1980;37:999-1004.
- Lloyd GG, Cawley RH. Psychiatric morbidity in men one week after first acute myocardial infarction. *Br Med J* 1978;ii:1453-4.
- Maguire GP, Tait A, Brooke M, Thomas C, Sellwood R. Effect of counselling on the psychiatric morbidity associated with mastectomy. *Br Med J* 1980;281:1454-5.
- Querido A. Forecast and follow-up. An investigation into clinical social and mental factors determining the results of hospital treatments. *British Journal of Preventive and Social Medicine* 1959;13:33-49.
- Hawton K. The long-term outcome of psychiatric morbidity in general medical patients. *J Psychosom Res* 1981;25:237-43.
- DePaulo JR, Folstein MF. Psychiatric disturbance in neurological patients: detection, recognition and hospital course. *Ann Neurol* 1978;4:225-8.
- DePaulo JR, Folstein MF, Gordon B. Psychiatric screening on a neurological ward. *Psychol Med* 1980;10:125-32.
- Lishman WA. *Organic psychiatry*. Oxford: Blackwell Scientific Publications, 1978.
- Trimble MR. *Neuropsychiatry*. New York: John Wiley and Sons, 1981.
- Lipowski ZJ. Psychiatric liaison with neurology and neurosurgery. *Am J Psychiatry* 1972;129:136-40.
- Lipowski ZJ, Kitiakos RA. Borderlands between neurology and psychiatry: observations in a neurological hospital. *Psychiatry in Medicine* 1972;3:131-47.
- Engel GL. Psychogenic pain and the pain-prone patient. *Am J Med* 1959;26:899-918.
- Goldberg DP, Blackwell B. Psychiatric illness in general practice. A detailed study using a new method of case identification. *Br Med J* 1970;ii:439-43.
- Barsky AJ. Patients who amplify bodily sensations. *Ann Intern Med* 1979;91:63-70.
- Goldberg DP, Hillier VF. A scaled version of the general health questionnaire. *Psychol Med* 1979;9:139-45.
- Goldberg DP, Cooper B, Eastwood MR, Kedward HB, Shepherd M. A standardised psychiatric interview for use in community surveys. *British Journal of Preventive and Social Medicine* 1970;24:18-23.
- Bridges KW. *A study of psychiatric morbidity in patients admitted to an adult neurology ward*. University of Manchester, 1983. 150 pp. MSc thesis.
- Goldberg DP. *Manual of the general health questionnaire*. Slough: National Foundation for Educational Research, 1978.
- Shepherd M, Cooper B, Brown AC, Kalton G. *Psychiatric illness in general practice*. Oxford: Oxford University Press, 1966.
- Goldberg DP, Huxley P. *Mental illness in the community. The pathway to psychiatric care*. London: Tavistock Publications Limited, 1980.
- Kirk C, Saunders M. Primary psychiatric illness in neurological outpatients department in north east England. *J Psychosom Res* 1976;21:1-15.
- Kogeorgos J, Foriagy P, Scott DF. Psychiatric symptom patterns of chronic epileptics attending a neurological clinic: a controlled investigation. *Br J Psychiatry* 1982;140:236-43.
- Lipowski ZJ. Review of consultation psychiatry and psychosomatic medicine. II. Clinical aspects. *Psychosom Med* 1967;29:201-23.
- Schwab JJ, Brown J. Uses and abuses of psychiatric consultation. *JAMA* 1968;205:65-8.
- Fletcher C. Listening and talking to patients. I. The problem. *Br Med J* 1980;281:845-57.
- Fletcher C. Listening and talking to patients. IV. Some special problems. *Br Med J* 1980;281:1056-8.
- Kessel N. Reassurance. *Lancet* 1979;ii:1128-33.
- Lloyd G. Medicine without signs. *Br Med J* 1983;287:539-42.

(Accepted 1 June 1984)

SHORT REPORTS

Aeromonas spp in travellers' diarrhoea

Travellers' diarrhoea affects millions of people each year, particularly travellers from industrialised countries when visiting less developed regions such as Asia, Africa, and Central and South America. The main known causes are enterotoxigenic *Escherichia coli* and strains of *Shigella* and *Salmonella*.¹ Parasites such as *Giardia lamblia* and *Entamoeba histolytica* account for a smaller proportion of episodes. *Aeromonas* spp are becoming acknowledged as important enteric pathogens² but are not recognised as a cause of travellers' diarrhoea. They have, however, been reported in travellers with diarrhoea from India³ and Bangladesh.⁴ During the past two years we have had referred to us for enterotoxin assay strains of *Aeromonas hydrophila* isolated as the only enteric pathogen from eight patients with travellers' diarrhoea. We report on these eight cases.

The patients

Two patients were children aged 2 and 12 who had been in Singapore, one of them en route to Australia from Europe. The six adults with diarrhoea had visited Bali, Singapore, India, China, or Italy. One 55 year old man, whose symptoms began during a visit to Italy, suffered recurrent diarrhoea with blood and mucus and accompanied by abdominal pain for two months. His symptoms resolved within two days of the start of treatment with co-trimoxazole, to which most strains of *A hydrophila* are sensitive,² and did not recur. Three of the adults who developed diarrhoea in South East Asia continued to have recurrent diarrhoea for four to 12 months after they returned to Australia and before their faeces were cultured in a laboratory that recognised *A hydrophila* as an enteric pathogen. Two of these adults recovered rapidly after starting treatment with co-trimoxazole; the third patient recovered spontaneously. Both children had diarrhoea of short duration and did not require treatment.

Comment

Examination of faeces from travellers with diarrhoea should include methods appropriate for isolation of *Aeromonas* spp. Not all strains will grow on widely used media such as MacConkey agar. Some *Aeromonas* spp ferment the lactose in these media, making the colonies indistinguishable morphologically from *Esch coli* and giving false negative oxidase reactions, which may result from changes in pH caused by fermentation of sugars in selective media.⁵

The *Aeromonas* strains isolated from adults were recognised with the

use of deoxycholate citrate agar and xylose lysine deoxycholate agar. In experienced hands, the appearance of non-lactose fermenting colonies on deoxycholate citrate agar and acid forming colonies on xylose lysine deoxycholate agar has yielded a high incidence of isolation of *A hydrophila*, although rapid lactose fermenters will be missed. We have found that the yield of isolation of *Aeromonas* from faeces is higher when blood agar is used for primary isolation. We recommend that a blood agar plate containing 10 mg ampicillin/l be added to the media used for examining faeces from patients with diarrhoea. The use of layered plates permits easier recognition of β haemolysis surrounding colonies of *A hydrophila*, which is often, but not always, associated with enterotoxigenic *A hydrophila*. Oxidase positive colonies can be identified with multitest systems or simply and inexpensively with Kaper's medium.⁵

Aeromonas spp should be included in the list of possible enteric pathogens to be sought in patients with travellers' diarrhoea. These organisms will not be overlooked if laboratories adopt appropriate methods to isolate *Aeromonas* spp from faeces.

- DuPont HL, Olarte J, Evans DG, Pickering LK. Comparative susceptibility of Latin American and United States students to enteric pathogens. *N Engl J Med* 1976;295:1520-1.
- Gracey M, Burke V, Robinson J. *Aeromonas*-associated gastroenteritis. *Lancet* 1982;ii:1304-6.
- Rahman AFMS, Willoughby JMT. Dysentery-like syndrome associated with *Aeromonas hydrophila*. *Br Med J* 1980;281:976.
- Speelman P, Struelens MJ, Sanyal SC, Glass RI. Detection of *Campylobacter jejuni* and other potential pathogens in traveller's diarrhoea in Bangladesh. *Scand J Gastroenterol* 1983;18, suppl 84:19-23.
- Robinson J, Burke V, Worthy PJ, Beaman J, Wagener L. Media for isolation of *Aeromonas* spp from faeces. *J Med Microbiol* (in press).

(Accepted 21 June 1984)

Princess Margaret Children's Medical Research Foundation, Perth, Western Australia

M GRACEY, MD, PHD, director, gastroenterology and nutrition research unit
V BURKE, MD, FRACP, senior research fellow
J ROBINSON, AIMLS, technologist

Princess Margaret Hospital for Children, Perth

P L MASTERS, MD, FRCPA, pathologist in charge

Royal Perth Hospital, Perth

J STEWART, AIMLS, senior technologist in charge
J PEARMAN, MD, FRCPA, clinical microbiologist

Correspondence to: Dr M Gracey.