Admission rate of old people to Scottish psychiatric units

The numbers of the elderly, and particularly the very old, have been increasing and continue to increase rapidly; but admission rates of old people to psychiatric hospitals in England and Wales suddenly started to fall in 1970. Shulman and Arie¹ suggested that, as the fall coincided with the beginning of the spate of reports of "scandals" in institutional care, the fall in admission rate represented a reluctance on the part of psychiatrists to admit new elderly demented patients to their hospitals.

There are two methodological problems associated with their paper. The method used for identifying first admissions in England and Wales changed in 1970, and lack of available data prevented Shulman and Arie from following the trend for more than four years. I have considered the Scottish statistics, which are now available to 1978.

Scottish statistics

In Scotland from 1964 to 1978 there was no change in the method used for identifying first admissions, and there were no reports of scandals in institutional care.

Scottish mental health statistics often differ from those for England and Wales. While rates may not strictly be comparable quantitatively between the countries, the trends in each country may be reliably compared.

The overall pattern in Scotland was of a stable first admission rate throughout the 14 years (see figure). There were some fluctuations, with a drop in admission rate for those aged 75 and over starting in 1969 and continuing for three years. Considering all admissions of those aged 65 and over to Scottish psychiatric units showed that there was an upward trend, with a 20% increase in admissions over the 14 years (see figure). Again the rate dipped in 1969.

Comment

As the numbers of the elderly increase there is necessarily an increase in the provision of community services, local authority residential places, and geriatric and psychogeriatric beds. One explanation for the fall in admission rates in England and Wales is that there was a relative

expansion of other services for the elderly at that time. Shulman and Arie reject this hypothesis because of the "suddenness and regularity of the trend."

The Scottish figures show a fall in the first admission rate of the very old that began in 1969, a year before the fall in the rest of Britain. There was also a fall in the rate for all admissions in 1969. It seems unlikely that Scottish psychiatrists would respond to the reported scandals in England before those closer to the problem. The suddenness of the fall in first admission rate in England and Wales was probably an artefact produced by the new identification method which by chance coincided with the reports of scandals. The fall in rate for all admissions of people aged 65 and over for England and Wales was by no means sudden.

A serious problem is presented by the increasing number of elderly people who are now referred for psychiatric advice coupled with the consequences of the current economic situation.² Over the past 14 years first admission rates for old people in Scotland have changed little. If the present provision of psychiatric places for the elderly is insufficient, then some patients will fail to gain the hospital admission that they require. As the numbers of the elderly increase so will the numbers of those falling outside the net. It is not enough to maintain the present first admission rate: provision should be made for it to increase.

I gratefully acknowledge the ready help that I was given in the preparation of this paper by members of staff of the Scottish Health Service Information Services Division and the Mental Health Statistics Division of the Department of Health and Social Security. I am, of course, responsible for the interpretation of the data.

¹ Shulman K, Arie T. Fall in admission rate of old people to psychiatric units. *Br Med J* 1978;i:156-8.

² Royal College of Psychiatrists (Scottish Division). *The psychiatrist's contribution to the care of the elderly*. Edinburgh: RCPsych, 1977.

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Rates of admission (all diagnoses) to psychiatric hospitals of people aged 65 and over in England and Wales and Scotland. Rates for first admissions and for all admissions are shown. Information was supplied by the Department of Health and Social Security and the Scottish Home and Health Department.

Malabsorption of prednisolone from enteric-coated tablets after ileostomy

The therapeutic efficacy of corticosteroids in many conditions is now well established, and prednisolone is the most popular choice among the available glucocorticoids for oral administration. The potential hazards of these drugs are well known and it has been suggested that gastrointestinal side effects may be reduced by administering an enteric-coated preparation.¹ The bioavailability of such preparations in normal subjects² and patients with respiratory disease³ appears to be similar to plain tablets, but erratic absorption has been reported in patients with renal transplants.⁴ We report on two patients with an ileostomy; in one of these evident malabsorption of prednisolone from enteric-coated tablets led to a therapeutic misadventure.

Case reports

A 40-year-old woman presented in September 1979 with a three-day history of anorexia, nausea, and vomiting. During the preceding fortnight she had felt generally weak and had noticed postural dizziness and cold hands and feet. She was taking prednisolone (2.5 mg enteric-coated tablets four times daily) for systemic lupus erythematosus, which had been diagnosed in 1972. In February 1979 a stage II carcinoma of the cervix was found after investigation for vaginal discharge, which was treated with radium insertions before operation and a Wertheim's hysterectomy in April. Unfortunately an enterovaginal fistula developed in July 1979 that required excision, and a right hemicolectomy with an ileostomy was performed six weeks before admission.

She was very thin, tanned, dehydrated, and peripherally cyanosed. Her pulse rate was 110/min and blood pressure 90/60 mm Hg supine. The central venous pressure was -9 cm H₂O. Results of laboratory investigations performed at this time included: serum sodium concentration 118 mmol (mEq)/l; serum potassium concentration 4.3 mmol (mEq)/l; blood glucose concentra-

tion 4.5 mmol/l (81.8 mg/100 ml); and packed cell volume 0.48 (48%). A provisional diagnosis of acute adrenal insufficiency was made, and she was treated with intravenous fluids and full doses of parenteral hydrocortisone and fludrocortisone; 20 hours later central venous pressure was +4 cm H₂O, serum sodium concentration 129 mmol (mEq)/l, serum potassium concentration 4.0 mmol (mEq)/l, and packed cell volume 0.33 (33%). Over the next two weeks she steadily improved and was discharged, being prescribed prednisolone 10 mg twice daily (as plain tablets broken up in milk), ferrous

Plasma prednisolone concentrations in two patients with ileostomy given prednisolone as 10 mg plain tablets (■—■), 10 mg enteric-coated tablets (●—●), or intravenous solution (○—○). Broken line shows lower limit of detection of assay.

fumarate 10 ml three times daily, Orovite 10 ml three times daily, and Dalivit 0.6 ml daily. She is now well and awaiting closure of her ileostomy.

During her convalescence absorption of prednisolone was studied by oral administration of 10 mg prednisolone as plain tablets (Precortisyl, Roussel) and enteric-coated tablets (Deltacortril, Pfizer) or as the solution of prednisolone sodium phosphate used for intravenous infusion (Codisol, Merck, Sharp and Dohme) in the fasted state. Blood samples were taken at appropriate intervals for six hours after giving the drug. Plasma prednisolone concentrations were estimated by quantitative high-performance thin-layer

chromatography with detection of fluorescence.² The figure shows the plasma concentration as a function of time after administration.

Because of these findings a further patient with an ileostomy was studied. This patient, a 43-year-old woman, originally underwent colostomy for ulcerative colitis with an ileorectal anastomosis in 1972 that was changed to an ileostomy in 1974. She has since been in good health except for some occasional looseness of the bowel. A barium radiograph of the small bowel in January 1980 showed no abnormality. She had originally received prednisolone for her colitis but this was finally stopped in 1974. She agreed to receive 10 mg prednisolone as plain and enteric-coated tablets and a study similar to that described was performed; the figure shows the results.

Comment

In both patients the absorption of prednisolone from plain tablets was comparable with results in other studies in terms of peak plasma concentrations and area under the plasma concentration, versus time curve.²⁻³ The absorption from solution was slightly better. In neither patient, however, was there much absorption of prednisolone from the enteric-coated tablets. The minimum concentration detectable with our technique is 20 µg/l. The lag time produced by enteric-coating of prednisolone tablets is between two and a half hours²⁻³ and clearly does not explain these observations. These studies clearly show that in both these patients with an ileostomy there was negligible absorption of prednisolone from an enteric-coated preparation that was bioequivalent to plain tablets in normal subjects.² This poor absorption was not related to disease activity, since the second patient had lived successfully without major bowel symptoms and with her ileostomy for several years. Because such bioinequivalence may manifest clinically as corticosteroid insufficiency, as in the first patient, we suggest that enteric-coated prednisolone preparations have little place in the treatment of patients with an ileostomy.

¹ West HF. Prevention of peptic ulceration during corticosteroid therapy. *Br Med J* 1959;ii:680.

² Morrison PJ, Bradbrook ID, Rogers HJ. Plasma prednisolone levels from enteric and non-enteric coated tablets estimated by an original technique. *Br J Clin Pharmacol* 1977;iv:597-603.

³ Wilson CG, May CS, Paterson JW. Plasma prednisolone levels in man following administration in plain and enteric-coated forms. *Br J Clin Pharmacol* 1977;iv:351-5.

⁴ Henderson RG, Wheatley T, English J, Chakraborty J, Marks V. Variation in plasma prednisolone concentrations in renal transplant recipients given enteric-coated prednisolone. *Br Med J* 1979;ii:1534-6.

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ONE HUNDRED YEARS AGO Dr Samuel A Francis reports in the *Medical Gazette* of New York: "Some few years since, I was summoned in haste to attend a lady who was said to be dying. On entering her elegant and luxurious bedroom, I found her parents and nurse apprehensively awaiting her certain exit. She was of an organisation that can be best described as delicate and intense. It is needless to enumerate the various approved methods adopted by me to resuscitate my patient, without the slightest promising effect. She, moreover, had made up her mind to die, and gracefully but firmly opposed every effort on my part to relieve her. Something must be done and at once. There was no time to call in consultation any prominent physician. Rapidly grasping the emergency, and coming to the conclusion that her body being poisoned was affecting her mind, and that a muffled exit would soon end this painful scene, I determined to affect the body through the mind, as it was utterly impossible to make her retain a single teaspoonful of milk and lime-water, or even keep down a small piece of cracked ice. Having attended her some time before through a dangerous attack of typhoid fever, brought on by a defective drain, I had remarked the high order of her cultivated mind, her quick appreciation of anything original, novel, or interesting, her love of music, and her keen sense of the ridiculous. On these characteristics I immediately determined to act; so, hastening home, I seized my banjo and returned to her bedside, where, her agonised

parents and weeping attendants were gathered in solemn awe. Taking up a prominent position, I commenced, at once, one of those ludicrous negro melodies, with a rapid accompaniment, whose song and music combined in olden times to rouse the slave from despondency, and exhilarate the aged and infirm. The effect was magical. An entirely new set of nerves were excited. At first, there was a listless attention, followed by a gradual fading away of the cloudy intellect; then interest; then pleasure; then a smile; and, ere I had played and sung two songs, the low ripple of a laugh repaid me for what the little big men of the world might say was frivolous treatment; as if anything innocent and honourable that brought back one from the grave, when all else had failed, could be frivolous. For three nights and a great portion of three days, I remained at the house, playing and singing, thereby keeping her mind from feeding on itself, and preventing that exhausting introspection so baneful to the sick. At any hour, night or day, that she was taken with what an Irish attendant so tersely styled as 'strong weakness,' I repaired to the bedside, and, with father and mother as chorus, lifted her out of herself. Elasticity soon came; then cheerfulness; then assimilation; finally appetite. She recovered entirely and completely, and is now in the enjoyment of perfect health. My fee was high, but was paid with gratitude."

(*British Medical Journal*, 1880.)