

Rheumatologists see many patients who have made their condition worse by overuse of the joints and who, in an attempt to work and walk off the early symptoms of their disease, have instead worked and walked them on. In an attempt to keep going at all costs they have aggravated the disease and sometimes precipitated their admission to hospital. It has been observed<sup>1</sup> that patients with acute rheumatoid arthritis in sufficiently active form to warrant their early admission to hospital, and who have therefore been diagnosed and treated relatively early in the course of their disease, have done better than those with less acute disease who struggled on for months and years, undiagnosed and untreated. In contrast, patients who have early given up the struggle and returned to bed and chair have done equally badly or even worse, developing contractures and pressure sores. Every patient with this disease is an individual problem, and rigid rules can seldom be applied. Even if they are the patient usually breaks them.

Famous authorities of their day such as John Hunter,<sup>2</sup> Hugh Thomas,<sup>3</sup> and Sir Robert Jones,<sup>4</sup> warned against the dangers of excessive use of inflamed joints. Many subsequent workers<sup>5-10</sup> have advocated temporary immobilization of the acutely affected joints in light plaster casts. In an attempt to assess the value of such treatment, R. E. H. Partridge and J. R. Duthie<sup>11</sup> in 1963 compared 34 patients with active rheumatoid arthritis treated in bed for four weeks by immobilization in unpadded plaster casts fixed in position by circular cuffs, no physiotherapy being given over this period, with 34 similar patients also confined to bed for four weeks but who performed daily active exercises. The range of movement and functional capacity improved in both groups, but disease activity diminished more in the first group, particularly in those patients with much inflammation. No joint ankylosis was seen in either group.

It must be emphasized that in such a variable disease as rheumatoid arthritis it is hard to assemble two truly comparable groups of patients, and it is not uncommon to see one patient doing badly on a regimen which suits another admirably. When in doubt, physicians have in the past turned to that classic text on the subject, *Rheumatoid Arthritis*, by C. L. Short, W. Bauer, and W. E. Reynolds,<sup>12</sup> of Boston, Mass. Now the Massachusetts Group have once again come to our rescue. Pointing out that there are no published reports on the effect of bed rest as such in rheumatoid arthritis and that bed rest has never been studied as an isolated variable in management, J. A. Mills and colleagues<sup>13</sup> report a study of 42 rheumatoid patients. Twenty-two were randomly selected to be treated in hospital for a period of 10 weeks without restriction of physical activity. The other 20 were confined to bed in hospital for at least 22 hours a day for the first four weeks of the study and at least 18 hours a day for the remaining six weeks. Ambulation in the latter group was limited to use of bathroom within 20 yards (18m) of the bed during the first four weeks and to short walks in the ward thereafter. All received physical treatment and salicylates and only two patients, one in each treatment group, were on prednisone, the dosage of which remained unchanged throughout the study. Every two weeks over the 10-week period a physician unaware of the treatment programme evaluated the results. Joint tenderness, joint swelling, grip strength, walking, stair climbing, and other functional tests were studied and the usual laboratory tests performed. Half or more of the patients improved to some degree, but there was no substantial difference between the two groups, and the degree of improvement was not great in most cases. What improvement there was may have been due to shelter from

the worries and disturbances of home life and to regular administration of salicylate rather than to the amount of bed rest in hospital.

This work is a good example of a careful and conscientious study, well performed by a group of workers expert in this field, and it is extraordinary that only now has an attempt been made to measure the effects of that most fundamental form of treatment in rheumatoid arthritis, rest in bed.

- <sup>1</sup> Duthie, J. J. R., Brown, P. E., Truelove, L. H., Baragar, F. D., and Lawrie, A. J., *Annals of the Rheumatic Diseases*, 1964, **23**, 193.
- <sup>2</sup> Hunter, J., *The Works of John Hunter, F.R.S.*, ed. J. F. Palmer. London, Longman, 1837.
- <sup>3</sup> Thomas, H. O., *Diseases of the Hip, Knee and Ankle Joints, with their Deformities, treated by a New and Efficient Method*, 3rd edn. London, Lewis, 1878.
- <sup>4</sup> Jones, R., *British Medical Journal*, 1909, **2**, 2.
- <sup>5</sup> Swaim, L. T., *Journal of the American Medical Association*, 1934, **103**, 1589.
- <sup>6</sup> Kindersley, C. E., *Proceedings of the Royal Society of Medicine*, 1936, **29**, 237.
- <sup>7</sup> Duthie, J. J. R., *Practitioner*, 1951, **161**, 22.
- <sup>8</sup> Duthie, J. J. R., *Journal of Bone and Joint Surgery*, 1952, **34B**, 211.
- <sup>9</sup> Kelly, M., *Medical Journal of Australia*, 1953, **2**, 95.
- <sup>10</sup> Swanson, N., *Canadian Medical Association Journal*, 1956, **75**, 257.
- <sup>11</sup> Partridge, R. E. H., and Duthie, J. J. R., *Annals of the Rheumatic Diseases*, 1963, **22**, 91.
- <sup>12</sup> Short, C. L., Bauer, W., and Reynolds, W. E., *Rheumatoid Arthritis*. Cambridge, Mass., Harvard University Press, 1957.
- <sup>13</sup> Mills, J. A., Pinals, R. S., Ropes, M. W., Short, C. L. and Sutcliffe, J., *New England Journal of Medicine*, 1971, **284**, 453.

## Renal Stones in Top People

In adults nearly all urinary calculi originate in renal papillae, work loose, go down the ureter in a succession of attacks of ureteric colic, and once in the bladder are voided in the urinary stream unless there is obstruction at the bladder neck or prostate. In children, though stones form in the kidney and work down into the bladder in the usual way, they tend to remain there (at least in boys) and grow into bladder stones. In Europe until the turn of the century, as today in some underdeveloped parts of the world, stones were common in children. Cutting for the stone was often necessary in schoolboys, to whom some of the ancient surgeons (including Celsus) restricted their practice. With the end of the nineteenth century childhood bladder stone all but disappeared from Europe, and it is now fast disappearing from less technically advanced parts of the world thanks to improvements in diet.<sup>1-3</sup>

But with the disappearance of childhood bladder stones came a new wave of stones in adults. This was noted all over Europe, and steadily increased, only halting for a few years with each of two world wars. Most of the adults seemed to have but one attack of ureteric colic followed by passage of a stone, and the condition was not regarded too seriously. It was only when detailed follow-up studies were carried out on adults who had passed one stone that it was realized that one stone heralded another. As many as 75% of patients would get a second stone. Even though there may be nine or ten years between episodes, there is a considerable risk that sooner or later the adult stone-former will need a surgical operation for his stones.<sup>4-6</sup>

All adults are not equally at risk. Apart from the special problem of the Bantu races in South Africa, whose freedom from urinary calculus is explicable by their diet,<sup>7</sup> the incidence of stone in men following different occupations varies greatly. In Czechoslovakia agricultural labourers were found to have fewest stones; sedentary workers, teachers, and health workers three to four times the average in-

cidence, and railwaymen more than ten times the average.<sup>8</sup> In the U.S. army during the second world war officers had two and a half times as many stones as did other ranks.<sup>9</sup> In the Royal Navy officers had more stones than ratings (except those in sedentary occupations).<sup>10</sup>

Among those occupations which seem to predispose to the development of urinary calculi is the medical profession. In Denmark a questionnaire showed an unexpectedly high proportion of attacks of uraemic colic among doctors.<sup>11</sup> Likewise in Scotland a new survey by R. Scott<sup>12</sup> discloses an uncommonly high incidence of ureteric colic and stone among both general practitioners and hospital doctors. But not all doctors are equally at risk. The highest incidence of stones was found in surgeons (17%) and their anaesthetists (11.1%). The explanation of these differences in the incidence of stone is not clear. It seems unlikely that there is much difference between the diet of surgeons and of general practitioners, and no doubt each regards his as the less sedentary occupation. A hot and humid environment might be thought to play some part in causing them were it not for N. J. Blacklock's studies showing that Royal Marines, who had generally served for considerable periods in jungle conditions hardly less torrid than the usual British operating theatre, had remarkably few stones.<sup>10</sup> The concept that calculus may in some sense be a disease of the élite has an obvious appeal, particularly to surgeons; but it is an élite where they are joined by the anaesthetist and the Czechoslovakian railwayman.

- <sup>1</sup> Andersen, D. A., *Hospital Medicine*, 1968, 2, 1024.
- <sup>2</sup> Andersen, D. A., in *Proceedings of the Renal Stone Research Symposium*, ed. A. Hodgkinson and B. E. C. Nordin. London, Churchill, 1969.
- <sup>3</sup> Eckstein, H. B., *Archives of Disease in Childhood*, 1961, 36, 137.
- <sup>4</sup> Williams, R. E., *British Journal of Urology*, 1963, 35, 416.
- <sup>5</sup> Williams, R. E., in *Proceedings of the Renal Stone Research Symposium*, ed. A. Hodgkinson and B. E. C. Nordin. London, Churchill, 1969.
- <sup>6</sup> Sutherland, J. W., *British Journal of Urology*, 1954, 26, 22.
- <sup>7</sup> Modlin, M., in *Proceedings of the Renal Stone Research Symposium*, ed. A. Hodgkinson and B. E. C. Nordin. London, Churchill, 1969.
- <sup>8</sup> Mates, J., in *Proceedings of the Renal Stone Research Symposium*, ed. A. Hodgkinson and B. E. C. Nordin. London, Churchill, 1969.
- <sup>9</sup> Milbert, A. H., and Gersh, I., *Journal of Urology*, 1945, 53, 440.
- <sup>10</sup> Blacklock, N. J., in *Proceedings of the Renal Stone Research Symposium*, ed. A. Hodgkinson and B. E. C. Nordin. London, Churchill, 1969.
- <sup>11</sup> Larsen, J. F., and Philip, J., *Urologia Internationalis*, 1962, 13, 53.
- <sup>12</sup> Scott, R., *Health Bulletin (Edinburgh)*, 1971, 29, 27.

## Cholera in Bengal

Bengal has long been the main home of cholera, and partition into East and West has done nothing to alter this; moreover this particular political boundary offers no obstruction to the spread of a communicable disease such as cholera. The source of infection is a man with cholera organisms in his stools; he may have symptoms or be a symptomless or convalescent carrier, and it is now apparent that such carriers are common and that excretion may be prolonged for weeks and even months. This carrier state not infrequently follows rehydration and antibiotic administration in hospital. The role of protective antibodies in cholera is not at all clear, but there is some evidence that immunity is a factor in the prevention of a catastrophic epidemic where the intensity of transmission is high. Studies on vibriocidal antibody titres in Calcutta suggest that a person with an initially high titre from previous contact may become a symptomless carrier

rather than develop a clinical attack of cholera; furthermore a rise in titre may be observed in persons who do not even become carriers.<sup>1</sup>

The mode of transmission is by water, and it has long been known that this is more likely at times when the sub-soil water level is high. The normally crowded conditions in Calcutta—where 10 families commonly occupy a single household with as many rooms, where the communal water supply is so often not piped, where, even if latrines exist, they are choked through overusage, and where a pit latrine may be in close proximity to a shallow well providing the water supply—all facilitate transmission. Among refugees conditions are likely to be even worse, with incontinent and debilitated patients pouring infective faeces where they lie. Anyone incompletely protected by vaccination is at risk, and unfortunately vaccination so often gives incomplete protection or protection for only a limited time; vaccination seems to have been less successful since *V. cholerae* biotype El Tor ousted the classical vibrio. An injection of 0.5 ml followed by 1 ml four weeks later of a suspension of 8,000 million Inaba and Ogawa types of *V. cholerae* per ml offers incomplete protection for a few months only; in mass immunization during epidemics single doses of 1 ml are usually given. Clearly all persons travelling from Britain to endemic areas of the world should be so protected, with booster doses of 1 ml at no longer than six month intervals, but it should be clearly understood that protection is not complete and does not replace good standards of hygiene. It is particularly important that all water for consumption in any way should be boiled. Similarly all persons entering Britain from endemic areas should have been recently vaccinated, but travellers with diarrhoea should still be viewed with suspicion and investigated accordingly. No doubt persons excreting cholera organisms have often landed at London Airport, but conditions in Britain are such that introduction in this way is unlikely to be followed by transmission.

Wars, famines, earthquakes, floods, migrations, and other national disasters all favour the transmission of such communicable diseases as cholera, typhoid, typhus, and relapsing fever, and it would be strange if cholera was the only disease in Bengal which took advantage of the present disruption. It is of paramount importance to use what facilities there are to maximum advantage in Bengal at the present time, and it seems that it is people, both medical and non-medical, who are required, though doctors from abroad have not been asked to volunteer. Antibiotics are of value in the treatment of cholera, but it is fluid which saves life; fluid intravenously and in large quantities for those seriously ill; in those less seriously ill initial intravenous fluid followed by adequate fluid by mouth has been found to be satisfactory; intraperitoneal fluid has also been employed effectively in children. Administration of fluid requires people, and people are needed to dispose of stools and to deal with contaminated clothing. People are also needed to provide emergency and safe water supplies, and it is measures of these kinds that should have top priority in the current emergency, where the ease and intensity of transmission are so marked. The long term policy is of course different, namely, the provision of a safe water supply and a satisfactory method of sewage disposal—and perhaps not least difficult to obtain, the co-operation of the population to use them; fewer national disasters would also not go amiss.

<sup>1</sup> Joint I.C.M.R.-G.W.B.-W.H.O. Cholera Study Group, Calcutta, India, *Bulletin of the World Health Organisation*, 1970, 43, 389.