creatinine 1.0 mg/100 ml, arterial pCO_2 33 mm Hg, and arterial pH 7.30. The acidosis was corrected, but two days later the patient died with bronchopneumonia. At no time were the blood urea or creatinine levels raised.

A 4 g/day-dose of ammonium chloride should not in itself cause acidosis in a patient with adequate renal function and no other contributory factors. Spironolactone is an aldosterone antagonist and patients with aldosterone deficiency due to adrenal disease commonly develop metabolic acidosis.¹ Studies in dogs have indicated that the acidosis of aldosterone deficiency is the consequence of impaired distal hydrogen ion secretion.² Thus possibly the long-term administration of an acidifying drug like ammonium chloride to a person being treated with spironolactone may overtax the impaired ability of the kidney to excrete acid and therefore result in an acidosis. Furthermore, increase in plasma potassium concentrations should result in the extrusion of H^+ ions from the intracellular fluid into the plasma.³

There were therefore three factors tending to produce acidosis in this patient: (1) increased acid load owing to ammonium chloride administration; (2) possibly a decreased ability of the kidney to excrete H^+ ions owing to the aldosterone-antagonist effect of spironolactone; and (3) increased acid load resulting from hyperkalaemia due to concurrent administration of spironolactone and potassium chloride. To what extent each of these factors was involved in producing the acidosis in this case cannot be known. However, it shows the hazards of administering a potassium supplement with a potassium-sparing diuretic, and seemingly caution should be also taken when administering an acidifying drug with spironolactone.—We are, etc.,

M. L. MASHFORD
M. B. ROBERTSON

Austin Hospital,
Heidelberg, Victoria, Australia

¹ Bondy, P. K., in *Duncan's Diseases of Metabolism*, ed. P. K. Bondy, Vol. II, p. 855. Philadelphia, W. B. Saunders, 1969.

² Kurtzman, N. A., White, M. G., and Rogers, P. W., *Journal of Laboratory and Clinical Medicine*, 1971, 77, 931.

³ Cooke, R. E., Segar, W. E., Cheek, D. B., Coville, F. E., and Darrow, D. C., *Journal of Clinical Investigation*, 1952, 31, 798.

Accident Flying Squad

SIR.—A five years' experience in Cumberland has convinced me that medical care for the injured and seriously ill outside the hospital is well worth while and that in a widely scattered area the patient is best served by having the services of both a general-practitioner based and a hospital-based service. A well equipped and properly trained general practitioner with radio communication can be at the site of an accident as soon as the other rescue services and can initiate treatment. If the problem is one requiring complicated or difficult procedures the assistance of a senior hospital doctor is of value not only because he is practised but also because more than one doctor is necessary to carry out some manoeuvres. Also the general practitioner may be more than 40 miles from a hospital and if he can hand over to a hospital team en route it allows him to return to his own practice.

While the early resuscitation and care of

the most seriously injured is clearly of importance I think it is presumptuous to suggest that lives have been saved in this way, and I believe we should concentrate more on the other benefits of roadside medical care. These would include the following: (1) Closer personal links between the hospital accident and emergency staff and the rescue service personnel. Each would learn the other's problems at first hand, and the hospital staff could provide more realistic training for ambulance, fire, and police personnel. (2) A doctor at the accident known to be well-equipped and trained (whether he be general practitioner or hospital doctor) allows the rescue services to concentrate on their primary task of releasing trapped casualties. Doctors and rescue-service personnel working together has resulted in many improvements in rescue techniques. (3) The existence of an active hospital-based unit in routine use, with a well worked out radio communication system, is much more likely to be of value in the event of a major disaster than the teams which exist only on paper in many hospital major disaster schemes. (4) Finally, the presence in the ambulance of a doctor who can initiate resuscitation and early observation of his patient allows the journey to hospital to be unhurried. This results in less anxiety for all concerned—not least the patients and their relatives.

There is a need for all those interested in this activity to pool their expertise and experience—and, indeed, a start has been made in this direction under the auspices of the Medical Commission on Accident Prevention.—I am, etc.,

P. A. M. WESTON

General Hospital,
Nottingham

Enormous Chondroma

SIR.—A 71-year-old woman presented with a huge tumour arising from the index finger of her left hand (Fig. 1). An accurate history

FIG. 1

was difficult to obtain, but it seemed that she had had the tumour since childhood and possibly from birth. Certainly her general practitioner had known about it for many years and had often tried, unsuccessfully, to persuade her to have it removed. She eventually agreed to go to hospital because the tumour was increasing in size.

The tumour together with the left index finger and half of the index metacarpal bone were removed under general anaesthesia. The postoperative appearance is shown in Fig. 1.

The pathologist's report was as follows: "The tumour was approximately 10 cm in diameter and appeared to have replaced most of the phalanges except the terminal portions of the first and third. The cut sur-

FIG. 2

face showed a greyish translucency and a patchy, gritty appearance. Sections show a chondroma with patchy calcification. The section examined shows no histological malignancy."

I have not been able to find a similar case in the medical literature.—I am, etc.,

R. H. V. HAFNER

London W.1

Lumbar Disc Problems

SIR.—I would like to reply to Dr. J. H. Cyriax (23 September, p. 769) both for the specific point that he raises and because backache is too common and important for the idea to be perpetuated that it demands active treatment in all cases. I believe the fundamental requirement is to remove by education the idea that backache is a mysterious condition requiring in all instances professional intervention.

I lay no claim for any originality in stating that the common cause of low back pain is a sprain of the joint complex between either the fourth and fifth lumbar vertebrae or between the fifth lumbar vertebra and the sacrum. This occurs either from one specific injury or from a series of minor stresses, as in a postural back strain. The force required to cause the sprain will depend upon the strength and stability of the structures forming the complex joints between the vertebrae and upon the strength and control of the supporting muscles of the back, belly, and buttocks. Their strength and stability vary widely with age and previous injury. One of the weak links in the articulation is wearing posterior joints. I have already stated (26 August, p. 529) that it is indeed fortunate that with increasing age the degree of stability of the lower lumbar spine increases by increased osteophyte formation, dehydration of the intervertebral disc, and scarring. Since with age the stresses decrease this combination leads to a smaller incidence of acute and chronic back strains in the 60s.

A sprain of the lower lumbar region does not differ from a sprain of an ankle, save that the articulation sprained is more complex and is surrounded by muscle and is near important nerves. If the sprained back