

appears to be very low—so infrequent, in fact, that many practitioners using these drugs will never have seen any of the toxic effects associated with them. But the practising doctor knows all too well that statistics can have an unreality when applied to individuals. The death which in a series of a thousand or more amounts to a mathematical rarity is to the patient and his relatives a tragedy. Thus what may be called the cardinal rules of therapy must be taken as a guide. Never prescribe any of the butazones if the condition to be treated is not really troublesome. Choose a safer treatment if it is feasible and sufficiently effective. (Is this precept always being observed before the issue of the two million or so prescriptions a year in Britain for these two drugs?) Finally, keep a constant watch for reactions so as to detect them at the outset. This also means that the patient must be seen frequently and possibly warned as well. On the first suspicion—of dyspepsia, vomiting, oedema, pallor, sore throat, bruising, etc.—the drug must be stopped. Even so, trouble can still arise, but it may not be so serious if taken in time.

Disorders of the Knee in Miners

Since the time of A. T. Thackrah (1795–1833) physicians have been interested in industrial medicine and, in particular, in the actions of poisons and irritants on the skin and lungs. Orthopaedic surgeons, on the other hand, have been relatively slow to develop a science of occupational orthopaedics, even though much of their work is concerned with the results of industrial accidents. Nevertheless for some years certain orthopaedic conditions have been recognized to have an occupational origin—such as tenosynovitis of the finger tendons in munition workers, ossification of the adductor muscle in riders, hypertrophic arthritis of the spine in those who carry heavy loads on one shoulder, and violinist's thumb. W. J. W. Sharrard¹ has recently given an account of the effects of kneeling on miners' knees.

Miners are especially apt to develop both inflamed bursae round the knee and lesions of the menisci of the knee-joint. Before the last war "clog segs" around the ankle were common in Lancashire among workers who wore clogs, and there are certain points of similarity between this condition and the cellulitis and bursitis that cause "beat knee" in miners. When the knee is flexed the skin over the patella may move as much as 2 in. (5 cm.) in relation to the underlying bone, but in contrast the skin at the level of the tibial tubercle is relatively fixed. In the normal subject no bursa can be found in front of the tibial tubercle—though, of course, a prepatellar bursa is a normal anatomical structure. Sharrard found that after an injury to the knee a haematoma develops in the pretibial region. This initial lesion is often mistakenly called "acute bursitis." Subsequently a persistent swelling may develop which has the structure of a true bursa—that is, the sac contains sterile yellow viscous fluid and is lined by endothelium.

Another finding by Sharrard was that in the course of a miner's work the pressure on the skin of his knee in the kneeling position may rise to as much as 200 lb. per sq. in. (1.4 kg. per sq. cm.). The pressure varies with different phases of the working cycle of shovelling, and is also different in various parts of the knee. Sharrard suggests that one of

the large blood-vessels present in the wall of the prepatella bursa ruptures and produces a haematoma. This is absorbed only with difficulty and the clot may become organized to give a layer of fibrous tissue. In addition the lymphatics may become blocked with haemosiderin derived from the breakdown of the blood in the haematoma and this impedes the absorption of fluid from the bursa.

The problem of "beat knee" can be tackled in two ways. First, an improved form of pad to distribute the pressure on the knees more evenly has been devised, and this seems to be diminishing the incidence of the condition. Secondly, immediate aspiration of the haematoma before the blood clot becomes organized may prevent the condition's becoming chronic. In chronic cases Sharrard recommends excision of the bursa.

Sharrard has also produced figures to support the long-held view that tears of the menisci of the knee-joint are far more common among miners than among the general population. For instance, in non-miners of similar age and sex there are twice as many appendicectomies as meniscectomies. Among miners, on the other hand, the pattern is reversed—that is, there are twice as many meniscectomies as appendicectomies. He suggests that long-continued kneeling leads to laxity of the ligaments of the knee and predisposes to a torn meniscus. Locking of the joint usually occurs first when a miner is walking on rough ground with a bent knee. It is uncommon when the knee is fully bent, though it may subsequently lock in this position.

Nuffield Generosity

As well as being almost world-wide, the projects supported by the Nuffield Foundation cover most branches of learning. But medicine is fortunate in the exceptional generosity its research workers have so often received from it. The latest annual report¹ shows once again that the Foundation is always willing to step outside the conventionally profitable workshops of research and finance projects that may initially seem more elusive even though urgently required. A case in point is the study of a population's needs for medical care being undertaken at Guy's Hospital. It is expected to throw fresh light on the balance of supply and demand for medical services, and is being undertaken because, in the words of the report, "It is apparent that the National Health Service is under great stress." Another project of far-reaching importance to the general population is the safety of food. The Foundation is making thoroughly praiseworthy attempts to stimulate interest in the subject but confesses that it has "to some extent failed to communicate—especially to those whom it is seeking to attract into the field—why the subject is important, interesting, and urgent." Medical men will agree that too little is yet known about the biological effects of the processing to which food is subject, and more particularly of the substances added to it. A symposium has been arranged for next April, and lectures are to be given in universities. Of the many other grants for the advancement of medicine suffice it to say that they are bestowed with a discrimination and generosity that worthily reflect the late Lord Nuffield's own pre-eminent possession of these qualities.

¹ Sharrard, W. J. W., *Ann. roy. Coll. Surg. Engl.*, 1965, **36**, 309.

¹ *The Nuffield Foundation, Report for the Year ended 31 March 1965.* Oxford, 1965.