parathyroid gland studies at necropsy in patients with these
diseases.

Tertiary hyperparathyroidism provides an opportunity to
study the process of tumour formation in man, for the pro-
longed hypocalcaemic stimulus leads to hyperplasia, adenoma,
and possibly to carcinoma. The situation is analogous to that
occurring in other endocrine glands in which prolonged
physiological stimuli eventually culminate in the develop-
ment of benign and malignant tumours.

Commonwealth Medical Association

Delegates from 12 national medical associations and observers
from nine more attended the recent meeting of the
Council of the Commonwealth Medical Association in
Canberra. In addition there were observers from several
other areas in the Commonwealth where no national associa-
tions yet exist. Much of the credit for this fine muster is
due to the Commonwealth Foundation in London, which
generously provided funds towards the costs of those who
came. The excellent arrangements and the warm hospitality
of the host Australian Medical Association were beyond
praise.

As the report of the proceedings at page 427 shows, the
matters discussed served to stress the bonds that link doctors
in all countries and in Commonwealth countries in particular.
An application for membership by the Rhodesian Medical
Association was agreed to unanimously. In accepting that
its task should be “mainly advisory, co-ordinating, and
motivating” the Council summed up the C.M.A.’s principal
function. It carries this out through discussion and the
exchange of information and ideas at its biennial meetings;
by concerted action, as on this occasion in pressing for
common standards for higher qualifications; and by the visits
of its travelling fellows to the more isolated medical associa-
tions. And between times there is correspondence between
friends.

This may all sound quite modest, but the goodwill and the
practical help given through the C.M.A. cement the links
already existing between its member associations.

Early Exit

Failure to come down with a degree after attending a
university used to be a private occasion of sorrow or relief.
But now that the State pays for such a high proportion of
university education in some way or other it is concerned to
know what return it gets for its money. Consequently the
University Grants Committee has periodically carried out
surveys of the entrances and exits that undergraduate students
make, looked into the reasons for them, and now in a report1
published last week compared the figures for different
universities.

The inquiry concerns students who should have graduated
in 1966, but it covers those who took an extra year to do
so in 1967 and follows into 1968 those who then failed. The
percentage of all students in this group (35,386) who failed
at some point in the course was 13.3. In medicine it was
lower—namely, 8.8% of 2,060 students. Medicine was also
noticeable for the relatively low loss due to academic reasons—
about two-thirds of those failing—and high loss for unspeci-
fixed reasons. A roughly comparable inquiry in 1954 showed
that 10.7% of medical students then failed.

The present report shows some differences in the medical
failure rate at different universities. Sheffield had the highest
rate of 21.5% representing 14 students, and Birmingham the
next highest with 16.3% (16 students). Lowest was the
Welsh National School of Medicine with 1.5% (one student).
The Scottish universities were round about the average, as
were London and most of the English universities. Owing
to the small numbers considerable fluctuations of a chance
nature are to be expected, and no doubt the variations from
year to year must be considerable, so that this particular
league table, though it may prompt a certain amount of
speculation, cannot be taken very seriously. Failure in the
final examinations seems to be rare, for the great majority of
those who fall by the wayside do so by the end of the fourth
year, the peak being at the end of the second year, when the
clinical period looms ahead.

On the whole the figures suggest that selection procedures
for entrance to medical schools are fairly efficient, and since
there was a slight fall in the proportion dropping out between
1954 (10.7%) and 1966–7 (8.8%) they may have improved.
It is possible too that medical students are more apt to stay
the course because they feel a more absorbing purpose in
their studies than do some of those in other faculties, who
are surprisingly often found to have graduated with still no
clear objective in mind. These are perhaps destined to fill
what the report calls “the pool of qualified manpower.” But
whether universities should be springs of learning or taps to
fill a pool is causing some thought at present.

Leucocyte Alkaline Phosphatase
and Hodgkin’s Disease

The fact that the cytoplasmic granules of polymorphonuclear
leucocytes contain alkaline phosphatase was discovered over
20 years ago. In 1955 L. S. Kaplow1 showed that a histo-
chemical technique could be adapted to give a semiquantita-
tive estimate of the variation from normal in the amount of
this enzyme in the leucocyte granules by using a scoring
method. Since then the technique has been more widely
applied and modifications have been introduced. Today a
description of the technique is to be found in standard text-
books of haematology, and many laboratories include it in
their routine methods. The first application was found to be
in distinguishing between true chronic myeloid leukaemia and
leukaemoid reactions in the blood. In chronic myeloid
leukaemia the polymorph alkaline phosphatase was found to
be much diminished or even absent altogether. In the
leukaemoid reactions due to infections or occurring in

1 Kaplow, L. S., Blood, 1955, 10, 1023.
4 Rutenburg, A. M., Rosales, C. L., and Bennett, J. M., J. Lab. clin.
polycythaemia vera, on the other hand, this enzyme was notably increased.

Some patients who were being treated with steroids, including cortisone, also showed raised leucocyte alkaline phosphatase scores. In 1958 F. G. J. Hayhoe and D. Quaglinò, in a comprehensive review of this test, noted that raised scores occurred in some patients with Hodgkin's disease. J. M. Bennett and his colleagues, working in Boston, Massachusetts, have now produced evidence which suggests that the raised score in Hodgkin's disease is related to the activity of the condition.

Hodgkin's disease is well known to have phases of remission, often induced by treatment, which may last for months or years. It is often difficult to know when a remission is coming to an end until signs such as increased size of lymph glands, anaemia, or recurrent fever appear; in some patients the onset of a fresh active phase is shown simply by loss of weight. If non-specific signs such as loss of weight, pyrexia, and anaemia could be shown to be the warning signs of relapse treatment could be initiated earlier.

The Boston group studied 42 patients with Hodgkin's disease: 23 were known to be in an active phase of the disease and 19 were considered on clinical grounds to be inactive. All the peripheral blood films were scored for leucocyte alkaline phosphatase by one technician, who had no knowledge of the patient's clinical condition. Each patient was followed up for an average of 10 months, and one-third were observed for over two years. Of the 23 patients with clinically active disease 22 had a raised score at all times; one patient with a persistently normal score was a 16-year-old boy with an enlarged liver and spleen and persistent constitutional symptoms. The explanation of these findings is unknown; none of these 23 patients had active infections and none was receiving steroid treatment. Of the 19 patients with inactive disease 15 had normal scores; but the remaining four had raised scores, and all of the latter developed signs of active disease between 3 and 12 months later. In this paper there is little information about the effect of treatment, but the authors do mention that two patients with initially raised scores showed a decline to normal scores when treated with chlorambucil.

Bennett and his co-workers point out that they have obtained more consistent results than have been recorded in previous reports. They consider that their technique and method of scoring contributed to this consistency and recommend that others intending to check cases of Hodgkin's disease should use the same method. Their results certainly seem to justify a trial of the method by others. Since the technique is relatively simple, it should not take very long to assess whether the onset of a relapse can be detected by this technique.

### Treatment of Gonorrhoea Today

The gonococcus, like so many other organisms, has not remained passive before the challenge to its survival presented by antibiotics. Until about 1956 most gonococcal infections responded well to small doses of penicillin, but after that date an increasing number of failures in treatment were noted. Many of them were found to be associated with the presence of strains with a diminished sensitivity to penicillin, usually needing concentrations of 0.06 to 1.0 unit per ml. for inhibition in vitro. Surveys carried out in various parts of the country showed that the incidence of these relatively insensitive strains varied from place to place and from time to time. This situation is not peculiar to Great Britain. Similar findings have been reported from many other countries, and the problem is thought to be particularly acute in the Far East, where strains of even greater resistance have been found.

This has led to a re-examination of methods of treatment and a search for alternatives to penicillin. At present this is still the antibiotic of choice because of its low toxicity and cheapness. The insensitive strains are not truly resistant and should respond if a suitably high blood level can be achieved and maintained for long enough. The use of slow-release preparations, such as benzathine penicillin, is advisable, because low concentrations of penicillin at the beginning and end of treatment may perhaps favour the emergence of insensitive strains. Similarly, penicillin by mouth is not advocated because of the vagaries of absorption, and supervision of regular dosage is seldom possible on an outpatient basis. R. M. Warren has described the results given by four treatment schedules used in Southampton between 1958 and 1965. Patients in whom gonococci persisted or reappeared during the first week after treatment but who did not give a history suggesting reinfection were classed as treatment failures. The incidence of these after 900,000 units of aqueous procaine penicillin was 15%, after 600,000 units of procaine penicillin with aluminium stearate (P.A.M.), 15.5%, after 600,000 units of P.A.M. plus 1 g. of streptomycin, 11%, and after 1.25 mega units of Triplopen (benemathine, procaine, and benzylpenicillin), 7%. Failure of treatment in these series was correlated with carriage by the patients concerned of insensitive strains, and it was noted that these were more frequent in infections contracted overseas than in those contracted in the Southampton area.

A. L. Hilton carried out a pilot study on the effect of probenecid in enhancing and prolonging the serum level of penicillin by blocking excretion through the kidney. He treated 64 patients with gonorrhoea with 0.5 g. probenecid six-hourly for four doses together with 1.2 mega units of P.A.M. Serum levels 21 to 30 hours after the injection in 48 patients were between 0.15 and 4.8 units of penicillin per ml., with a mean value of 1.27 units per ml. No cases were classed as failures in this series. In the preceding year at the same clinic the failure rate in males receiving 300,000 units of P.A.M. was 39.3%. F. R. Curtis, in a study carried out between 1962 and 1964, treated groups each of over 600 male patients with gonorrhoea with dosages of 600,000, 1,200,000, and 2,400,000 units of procaine penicillin with failure rates of 6.2%, 2.5%, and 1.4% respectively. In all patients in whom gonococci persisted or reappeared within the first week after treatment the treatment was classed as a failure. When the same dosages were preceded by a single dose of 2 g. probenecid the respective failure rates were 2.9%, 1.6%, and 0.3%. In these studies it was also shown

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