sera are subjected. This test is mediated by the same antibody (IgG1) as that which fixes complement. Compulsory area eradication was started in November 1971 in three main areas (W. Scotland, NW England, SW Wales) and also in the Isle of Wight, and further extension areas have already been announced. This expanding programme, together with the third of herds already participating in the voluntary schemes, presents an encouraging picture for the eventual eradication of the disease.

Total Screening of Blood Donations for Australia (Hepatitis-associated) Antigen and its Antibody

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During a continuous period of 16½ months all 147 636 donations were tested by immunoelectroosmophoresis (IEOP) for Australia antigen and its antibody. The number confirmed Au antigen-positive was 104, an incidence of 1 in 1 420. The figures for antibody positive were 82 and 1 in 1 800. Taking only 90 099 first donations, 103 or 1 in 874 were positive for antigen, and 79 or 1 in 1 140 positive for antibody. Thus with rare exceptions donors who were seronegative at the first donation have remained negative at subsequent donations.

The exceptions were four donors, one of whom was found to be antigen positive, and three antibody positive at their second donations. The three antibodies were weak and may have been missed at the original test. These three donors and the recipients of their first donations did not suffer from overt hepatitis. The recipient of the first donation of the donor, who was antigen positive at his second donation, developed Au antigen-positive hepatitis. This donor had a strong Au antigen, but no history of hepatitis. Antigen excess at the time of the original test may have caused a false negative reaction.

To date seven cases of Au-positive hepatitis have been reported among recipients of apparently Au-negative blood. All the donors involved have been reexamined. Two have been found to be Au antigen positive. One was the strong antigen previously mentioned; the other was a weak antigen probably missed at the original test. In the remaining five cases all donors were negative when tested by the techniques of IEOP, immunodiffusion, and complement fixation using a chequer

board titration system. The negative results in these five cases suggest either that a very weak example of Au antigen was present in an original donation, or that there was another portal of entry for the infective agent.

With the exception of one donor who developed acute hepatitis two weeks after donation, and in whom Au antigenaemia was transient, all the positive reactors have remained clinically well and either the antigen or antibody has persisted. The incidence of Au antigenaemia is 1 in 153 in male prisoners, 1 in 803 in non-institutionalized male donors, and 1 in 2019 in female donors. The differences between these groups are statistically significant for Au antigen, but not for Au antibody.

Quality Control in a Chemical Pathology Laboratory

A. JORDAN, J. M. BENTON, R. M. JAMES, AND P. A. MACDONALD (*Royal Infirmary, Sheffield*)

These authors described briefly the Sheffield regional quality control scheme as it affected them and pointed out the need for all laboratories to know the standard deviation of every method in use in the laboratory. This was made very much easier by using the range technique. If the standard deviation be known it is possible to know whether a systematic error is present on a single determination on a specimen in a national quality control scheme. The authors emphasized the importance of all laboratories keeping a record of gross errors.

Investigation of the Role of Pancreatic Trypsin in Ulcerative Colitis

D. M. GOLDBERG (*The Royal Hospital, Sheffield*)

Trypsin has been shown to be an important aetiological factor in the genesis of certain forms of experimental intestinal damage in animals (Bounous, 1967, 1970). Large amounts of active trypsin reach the terminal ileum of man and are subsequently inactivated by trypsin inhibitors of colonic mucosal epithelium (Goldberg, Campbell, and Roy, 1969, 1971). It therefore seemed appropriate to determine whether an abnormality of trypsin or its inhibitor could be detected in patients with ulcerative colitis.

The output of trypsin was determined in 26 patients with ulcerative colitis and eight with polyposis coli, each of whom had

undergone total colectomy and ileostomy. Measurements were made in each subject over periods ranging from three to eight days on a standard diet. Trypsin output was lower in the group with ulcerative colitis, but serial postoperative measurements suggested that this was due to the relatively poorer nutritional status of patients in this group, and no consistent difference was apparent between individuals in both groups whose ileostomy had been established more than one year before the measurements were made.

The activity of trypsin inhibitors was determined in 20 samples of colonic mucosa obtained from patients with ulcerative colitis and 18 samples of histologically normal colonic mucosa from patients with carcinoma of the colon. Higher levels were found in mucosa affected by ulcerative colitis, there being an apparent correlation between inhibitor level and the severity of the lesion as assessed by the extent of ulceration, necrosis, and haemorrhage.

The data do not support the view that a high intraluminal concentration of trypsin, or a reduced cellular protection against its action, are primary or secondary causes of mucosal damage in ulcerative colitis.

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Haematological Population Screening in the Elderly

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An epidemiological survey has been conducted in subjects of 65 years and over, resident in Coventry, and compared with similar surveys in a mining valley and a seaside town in South Wales. The subjects in the Coventry group were 87 Asian immigrants, 221 'English', and the 'Welsh' group 293 from the valley and 240 from the town. The haematological data included levels of haemoglobin, red cell values, serum vitamin B₁₂, serum, and red cell folate.

Haemoglobin levels showed a wider scatter in the Asian males than in the other groups but otherwise there was no difference found. The overall incidence of anaemia, taking an arbitrary 12 g/100 ml