

Bleeding from oesophageal varices can usually be controlled by medical means.<sup>4</sup> If bleeding persists, and surgery seems needed, the patient is probably in liver failure, which is causing the bleeding in addition to the portal hypertension. The simplest way to stop the bleeding is by intravenous pitressin, 20 ml. intravenously in 100 ml. 5% glucose, given over 10 minutes. This can be given in the most primitive conditions provided a refrigerator is available to store pitressin. It is rapidly inactivated with heat. The pitressin lowers the portal blood pressure. Transfusion, of course, is also necessary.

Once the patient has stopped bleeding the question of surgery arises, particularly portacaval anastomosis. If the patient is not in liver failure (no jaundice, coma, or ascites) this operation may be relevant. The patient must be transferred to a specialist centre for it.

## REFERENCES

- 1 Sherlock, S., *Diseases of the Liver and Biliary System*, 1963, 3rd edition. Blackwell, Oxford.
- 2 — and Shaldon, S., *Gut*, 1963, 4, 95.
- 3 — *Practitioner*, 1965, 195, 485.
- 4 — *Brit. J. Surg.*, 1964, 51, 746.

## Ultra-violet Light and Retinal Damage

**Q.**—To what extent is the retina liable to be damaged in an ultra-violet light injury to the eye ?

**A.**—Ultra-violet light is almost entirely absorbed by the ocular media and little reaches the retina. Although retinal damage could occur from high intensity or long exposure, it has only rarely been reported in the literature.<sup>1</sup>

## REFERENCE

- 1 Duke-Elder, S., *Textbook of Ophthalmology*, 1954, vol. 6. Kimpton, London.

## Infections and Serum Globulins

**Q.**—For how long after an acute infection may increased globulins normally be found in a patient's serum ?

**A.**—Increase of serum globulin after an acute infection is a complex phenomenon. A number of plasma proteins increase in concentration as a result of various stressful stimuli—infection, trauma, neoplasia, etc. These include C-reactive protein, the only protein which appears in the plasma under these circumstances but is undetectable in normal circumstances, orosomucoid and other  $\alpha_1$  glycoproteins, siderophilin (or transferrin), ceruloplasmin, and probably a number of others. Each protein has its own speed of reaction and of return to normal, which is presumably related in part to the normal turnover rate of the protein.

With surgical trauma the most readily available predictable form of stimulus for study, the increases occur within 24 to 72 hours, and all these proteins are back to normal within 7 to 10 days, provided complications have not arisen. Similar reactions occur after acute infections, and return to normal is to be expected within a week of response to effective therapy. These changes result in elevation of the  $\alpha_1$ -,  $\alpha_2$ -, and  $\beta$ -globulins on electrophoresis.

In addition, with infection, as with any hypersensitivity disease, there is a rise in immunoglobulins which results in an elevation of the electrophoretic  $\gamma$ -globulin. This

phenomenon has been well studied in chronic infection—particularly tuberculosis and such protozoal infections as malaria, trypanosomiasis, and kala-azar. Usually all three immunoglobulins—IgG, IgA, and IgM—are elevated in parallel, but there are exceptions to this. IgM is particularly raised in trypanosomiasis. The elevation persists throughout the period of chronic disease, and falls slowly with successful treatment.

Published data on acute infections is far less extensive. There have been reports of a rise in electrophoretically determined total  $\gamma$ -globulin within a few days of the onset of acute infection and a return to normal within a week of recovery. The elevation parallels the development of antibodies to the infection, but certainly the amount of antibody to the particular infection is very small compared with the total increase in  $\gamma$ -globulin. The return to normal occurs rapidly—within one to two weeks of recovery. This is surprising, and may well be faster than the normal decay of  $\gamma$ -globulin. Acute infections which may be associated with such an elevation of  $\gamma$ -globulin include such generalized diseases as scarlet fever and localized infections such as severe acute sinusitis.

Present data are not good enough to indicate the diagnostic and prognostic value of such observations, particularly in terms of changes in immunochemical estimates of the different immunoglobulins.

## Ultra-high-temperature Treatment of Milk

**Q.**—What is the procedure in the ultra-high-temperature treatment of milk ?

**A.**—Ultra-high-temperature treatment of milk, according to regulations recently published,<sup>1</sup> requires milk to be heated at not less than 270° F. (132.2° C.) for not less than 1 second. In practice higher temperatures of 275–300° F. (135–148.9° C.) are used, with holding times of up to 4 seconds. In Britain, the milk must be heated indirectly, and the plant is similar in principle to that used for high-temperature short-time pasteurization. In some other countries direct heating by injection of steam is permitted, all the water added as condensed steam being subsequently removed during controlled cooling *in vacuo*.<sup>2,3</sup>

## REFERENCES

- 1 Statutory Instrument, 1965, No. 1555. H.M.S.O., London.
- 2 *J. Soc. Dairy Technol.*, 1965, 18, 58, 65, 85.
- 3 Burton, H., *Dairy Industries*, 1965, 30, 542, 611, 700, 792, 872.

## Development of Handedness

**Q.**—Is it wise to try to teach left-handed children to write with and otherwise use the right hand ? If so, when should education in the use of the right hand be started ?

**A.**—It is unwise to try to teach left-handed children to write and perform similar single-handed skills with the right hand, especially if the left-handedness is pronounced. Although there may be some delay before it becomes apparent which hand is likely to be dominant, the child should be allowed to develop his or her handedness naturally without hindrance.

It has been found that the enforced use of the right hand in some cases of strongly left-

handed children has led to a stammer. For instance, Bryngelson and Rutherford<sup>1</sup> reported that 81% of 127 stammerers with left-handed preference had been taught to use the right hand, and I have met with similar cases, although recent surveys suggest that this occurrence is not so frequent as formerly supposed.<sup>2</sup> Further, the enforced change from left to right causes awkwardness and physical discomfort in the attempt to use the non-dominant hand for single-handed skills, which may well lead to feelings of inferiority, frustration, and irritability—conditions which would tend to aggravate any tendency to stammer and may even cause delay in the acquisition of spoken language.

## REFERENCES

- 1 Bryngelson, B., and Rutherford, B., *J. Speech Dis.*, 1937, 3, 2.
- 2 Andrews, G., and Harris, M., *The Syndrome of Stuttering*, 1965. Heinemann, London.

## Miners' Asthma

**Q.**—May the asthma associated with coal-miners' pneumoconiosis be due to the vegetable content of coal-mine dust ? If so, to what extent is coal-mine dust contaminated with vegetable matter ?

**A.**—Miners' asthma, like potters' rot, is a graphic but misleading description of a pneumoconiosis. It suggests the occurrence of breathlessness and a wheeze which change in severity over short periods of time, are probably of allergic origin, and are usually relieved by bronchodilator drugs. In fact, the breathlessness occurs on exertion, is reproducible, and, except in the late stages or with colds or bronchitis, is absent at rest. It is not precipitated by inhalation of coal dust.

The breathlessness is due to narrowing of the lung airways, which is usually partly relieved by bronchodilator drugs. This response is similar to that in patients with bronchitis. It is not accompanied by eosinophilia, hypersensitivity, or other features of asthma.

Coal is of vegetable origin but has been almost entirely carbonized: some of the original wood structure remains, including the spores. Other spores in coal-mine dust are of recent origin, but most date from the time when the coal was laid down. The total quantity varies with the type of vegetation, and is in general less in hard than in soft coal, and in the southern than in the northern hemisphere. The spore content appears not to be related to the incidence of pneumoconiosis.

## Corrections

Under "Books Received" in the issue of 5 February (p. 351, col. 3) the price of *The Essentials of Roentgen Interpretation*, by L. W. Paul and J. H. Juhl, should have been \$25.00 or £10.

We regret that in the letter from Dr. John G. Howells (12 March, p. 676) there was a misprint in the third paragraph on page 677; the penultimate sentence should have read, "We were able to deduce that the conditions applying before, during, and after separation were more important in determining whether or not there would be harmful effects than in the fact of separation itself."