

lymphopenia. This blood picture may give warning of impending death before that is apparent clinically. If treatment is successful the white-cell count begins to rise and the shift to the left to decrease, i.e., the findings most expected with an acute infection. If improvement is maintained a lymphocytosis develops; this is the haematological finding that accompanies obvious clinical improvement. Later the white cells become normal in number and quality.

Bronchopneumonia has been the common finding in the babies I have examined who were thought to have died of the "cold syndrome." To arrive at an accurate diagnosis in the newborn far more work must be done than is usually necessary in a necropsy on an older subject. Even then it must be quite easy for us to overlook osteomyelitis and other acute inflammatory conditions. Problems in acute inflammation are very difficult both ways in the newborn. Easy as they are to miss, their significance when found is not always clear, e.g., what is the meaning of umbilical sepsis, with masses of staphylococci, in a baby dying of asphyxia due to hyaline membrane without pneumonia?

If low-reading thermometers come into general use it is to be hoped that all using them will realize that there are more dangerous causes of a collapse reaction than cold injury.—I am, etc.,

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Pigmentation of Jejunal Muscle

SIR,—Dr. Pamela M. Fullerton (*Journal*, January 23, p. 249) has found that the development of brown pigmentation of the jejunum is associated with abnormalities of the gastro-intestinal tract. We have recently observed a similar condition in dogs which had survived more than one year after operations which altered their alimentary function.

The first dog was killed one year after total gastrectomy. The second lived fourteen months after oesophagoduodenostomy (the stomach being left, with its vagal nerve supply intact, as a blind pouch draining into the duodenum). The third dog had a coeliac ganglionectomy and vagotomy performed six years previously. All the animals were severely underweight and had intestinal hurry and steatorrhoea. In each dog the whole of the small intestine was brown in colour and a pigment with the characteristic staining and other properties of lipofuscin was present at histological examination. Dogs which were killed within one year of total gastrectomy did not have discoloration of the bowel. It would appear that, in dogs, disordered function of the bowel must be present for at least one year before the pigment is deposited.

It is of interest to note that, as long ago as 1932, Mann and Graham¹ of the Mayo Clinic observed brown pigmentation of the intestine in dogs which had undergone total gastrectomy.

We wish to thank Dr. L. Golberg and Dr. J. P. Smith for their histological examination of the first two cases and Dr. M. A. Freedman for his permission to quote the third.

—We are, etc.,

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REFERENCE

- ¹ Mann, F. C., and Graham, A. S., *Ann. Surg.*, 1932, **95**, 455.

Dumping Syndrome

SIR,—In his letter (*Journal*, February 6, p. 420) Dr. T. L. Dormandy points out that the blood-sugar concentration and blood-glucose concentrations are not necessarily the same, and that our observations on the dumping syndrome (*Journal*, January 16, pp. 141 and 147) were based on estimations of the former. He suggests that "the curious difference between their patients' response to hypertonic glucose drinks and a mixed breakfast" might partly be due to the presence of non-glucose sugars in the blood, and goes on to imply that the presence of such sugars in the blood may invalidate the correlation we found between the size of the fall in plasma volume (not, as Dr. Dormandy says, "blood volume") and the rate of rise of the blood-sugar concentration.

Regarding the "curious difference" referred to by Dr. Dormandy, we found, in patients with the dumping syndrome, no difference between their response to the ingestion of hypertonic glucose and that to a meal, except for a better quantitative response to insulin administration before a meal. The probable explanation for this was discussed in our second article. As regards the correlation between the fall in plasma-volume and the rate of rise of the blood-sugar concentration, this was observed in patients following the ingestion of a hypertonic solution of pure glucose. For these reasons we cannot believe that the well-established difference between blood-sugar and blood-glucose concentration can materially affect the significance of our observations. Concerning the technique we used to estimate the blood-sugar concentration, it may be stated that early in our work we discovered a hitherto unrecognized error in all techniques which estimate blood-reducing substances by the reduction of copper. Our results were obtained by a modification which eliminates this error. This aspect of the work is about to be reported in detail elsewhere.—We are, etc.,

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An Intracardiac Pace-maker

SIR,—Your annotation (*Journal*, February 13, p. 491) rightly calls attention to the importance of an example of the clinical application of an intracardiac pace-maker by Furman and Schwedel.¹ In your discussion on this, however, you overlooked the communication by F. E. Weale,² of the Thoracic Surgical Research Unit at Guy's Hospital, in which he describes the use of an intracardiac electrode introduced via the jugular vein for cardiac resuscitation.—I am, etc.,

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RUSSELL BROCK.

REFERENCES

- ¹ Furman, S., and Schwedel, J. B., *New Engl. J. Med.*, 1959, **261**, 943.
² Weale, F. E., *Lancet*, 1959, **2**, 73.

Cardiac Arrest

SIR,—Perhaps it is not out of place to comment on the annotation on the treatment of cardiac arrest (*Journal*, February 6, p. 409). Cardiac arrest in the operating theatre is due to vagal inhibition or conditions leading to circulatory inefficiency of such degree that