

pregnancies. In this country a case report by Curphey³ elicited correspondence from others who had heard intrauterine crying.

REFERENCES

- ¹ Ryder, G. H., *Amer. J. Obstet. Gynec.*, 1943, 46, 867.
- ² Croity, J. G., and Kuehnle, L. W., *ibid.*, 1948, 56, 977.
- ³ Curphey, E., *Brit. med. J.*, 1947, 2, 508.

Blood Volume and Polycythaemia Vera

Q.—*Is the estimation of blood volume the most important test in the laboratory diagnosis of polycythaemia vera? What is the most practicable method of doing this estimation in a small laboratory?*

A.—The estimation of the blood volume is extremely useful in polycythaemia vera, but it is subject to exactly the same difficulty in interpretation as are haemoglobin and haematocrit. In typical cases, polycythaemia vera can be diagnosed quite easily on clinical grounds and an estimation of haemoglobin and haematocrit, and it is only in cases where the polycythaemia is minimal that difficulty arises.

In these cases one needs to determine the circulating red-cell mass rather than the plasma volume, and this requires the use of radioactive labelling, preferably with ⁵¹Cr, a procedure which is not suitable for a small laboratory. Indirect estimations from the plasma volume and the haematocrit are much less reliable, but they can be used, and the method used by Mollison¹ is probably the best for routine purposes.

REFERENCE

- ¹ Mollison, P. L., *Blood Transfusion in Clinical Medicine*, second edition, 1956. Oxford.

Phenylketonuria

Q.—*What is the aetiology of phenylketonuria and how is it diagnosed? By what age should the condition be recognized for treatment to be successful?*

A.—Phenylketonuria is thought to be a hereditary disease transmitted by a recessive gene. Siblings and other relatives, such as cousins and uncles, may be affected, but the parents are free from the disease, although it has been described in two cases in the United States to have affected the mother. The risk of a child manifesting this disease in an affected family will therefore be about 1 in 4.

Diagnosis depends on a positive test for phenylpyruvic acid in the urine. Clinically the diagnosis should be suspected in infancy in a baby who is delayed in development and who is fair-haired. Dark hair may occur in occasional cases but is very unusual. An older child is more severely mentally retarded, may suffer from fits, but has no characteristic appearance apart from fair hair and perhaps a tendency to wide spacing of the teeth.

The earlier the condition is recognized the more successful treatment is likely to be. It is therefore important to diagnose it in the first two months of life, if it is possible to do so, in order to get the best result. After the age of 3 or 4 months it is likely that some permanent degree of damage to the brain will have occurred. However, it is not possible to diagnose the condition in the first days of life, and it is only very occasionally that phenylpyruvic acid appears in the urine by the age of 10 days. In many cases it is not present in sufficient concentration to give a positive test until about 6 weeks of age, when 85 to 90% of cases will give a positive result on testing.

The usual test for phenylpyruvic acid is a ferric chloride test. Urine is acidified with a few drops of 2% sulphuric acid and ferric chloride solution (10% liquor ferri perchlor.). The urine turns a green colour. A very simple way of testing for phenylpyruvic acid is by using "phenistix." The phenistix needs only to be dipped in some urine or pressed between the layers of a damp napkin, when it will change colour if phenylpyruvic acid is present. The diagnosis can be further confirmed by finding a raised level of phenylalanine in the blood. This condition is very well described by Hilliard and Kirman.¹

REFERENCE

- ¹ Hilliard, L. T., and Kirman, B. H., *Mental Deficiency*, 1957. Churchill, London.

Eczema After Vaccination

Q.—*A man developed a generalized weeping eczema six weeks after smallpox vaccination. He improved on oral antihistamines and hydrocortisone ointment but relapsed, and now, two months later, still has a rash. Could this be attributed to vaccination? Could any line of treatment be suggested which might benefit the patient?*

A.—In the predisposed, it is well recognized that vaccination may precipitate an attack of eczema which may then persist as a constitutional disorder. The problem here now calls for general medical consideration, overhaul of the patient, attention to any sources of stress from within or without, and investigation of any sources of sensitization, specific or otherwise. The eczema itself should be treated along the usual lines with soothing and antipruritic measures locally, and the avoidance of external irritation and perhaps of washing. Internally small doses of sedative to relieve irritation will help.

Flaking of the Nails

Q.—*What is the cause of flaking of the nails, and what can be done for it?*

A.—Flaking of the nails is a common complaint. It is aggravated by the use of nail varnish and perhaps more particularly of varnish remover, but apart from this I cannot identify any cause. Successful treatment is the use of friction, which can be conveniently applied by polishing the nails with a wash-leather buffer for 5 or 10 minutes daily. In the course of a few months the nails will usually thicken and harden sufficiently to prevent further trouble. The treatment, of course, has to be continued.

Numbering the Rings

Q.—*What convention is observed in numbering the rings of complex organic compounds?*

A.—The official convention is that one begins to number on the top right-hand corner, and proceeds clockwise. There are, however, numerous exceptions. These have arisen for historical reasons, and apply mostly to biological compounds. For instance, purines begin to be numbered at the top left-hand corner and go around the first ring anti-clockwise and continue in the second ring clockwise. Steroids have a numbered sequence all of their own. On the other hand, not even riboflavin is numbered in the orthodox manner. Details of this rather confused situation can be looked up in *International Union of Pure and Applied Chemistry Nomenclature of Organic Chemistry, 1957* (Butterworth, London, 1957).

Correction.—We regret that in the article "Translating from Russian" (May 21, p. 1561) the name of the editor of the *Russian-English Medical Dictionary* by Stanley Jablonski was given as B. S. Levene; this should have read B. S. Levine.

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