

been obtained, every extraneous noise is amplified with equally bewildering intensity, and a number of amplifiers using frequency attenuators have been produced to cut out all but the lowest and most relevant frequencies.<sup>1</sup> Attempts at monitoring the foetal heart rate are therefore often defeated by interference which the human ear is more skilled at disregarding than any known machine. For these reasons automatic foetal heart monitors have not lived up to the ingenuity of their design. A great improvement is the method developed in the Medical Physics Department, Edinburgh, by Simpson and Leask<sup>2</sup> and demonstrated by them at the scientific exhibition at the recent B.M.A./C.M.A. Joint Annual Meeting. This method concentrates upon detecting the foetal heart sounds as mechanized vibrations and uses a vibrating arm whose natural frequency of vibration approximates to that of the foetal heart sounds—i.e., about 60 cycles per second. On the end of this arm is a grill through which a light is shone through another parallel and fixed grill on to a phototransistor. Further transistor amplification of the resulting signal is passed, after suitable modification, to a small loudspeaker. A reliable indication of the foetal heart is thus given, although the sounds are not truly reproduced. Because the pick-up is "deaf" to other frequencies it does not amplify extraneous noises and the signals can be used for fairly reliable monitoring of the foetal heart rate. This was demonstrated at the same exhibition with an elegant but robust mechanical recording system, and it is understood that the Edinburgh firm of Bruce Peebles are undertaking to produce it.

Foetal heart rate monitoring by picking up foetal electrocardiographic signals has proved considerably more difficult because of overshadowing by the maternal E.C.G. signals, skin currents, and extraneous interference.

## REFERENCES

- <sup>1</sup> Taylor, S., and Fothergill, L., *Lancet*, 1956, 1, 1050.  
<sup>2</sup> Simpson, D. C., and Leask, E., *ibid.*, 1959, 1, 1077.

## Nasopharyngeal Infection and Midwifery

**Q.**—*What organisms are considered dangerous in the nose and throat of those who wish to do midwifery? What is the best method of elimination?*

**A.**—It is usual to examine only for haemolytic streptococci and to regard these as dangerous only if they are of Lancefield's Group A. Treatment depends on the site of carriage and its condition. Diffuse infection of the mucosa of the throat or nose is usually transient and in any case responds rapidly to treatment with penicillin: there is a form of chronic streptococcal rhinitis which may prove less amenable. When the site is the tonsil, and if it is hypertrophied, the streptococci are in deep crypts relatively inaccessible to penicillin, whether given systemically or applied locally, and they may reappear in time after even a vigorous course of treatment. Tonsillectomy may then be necessary: it will usually be judged to be advisable on general grounds.

## Sodium Bicarbonate in Electrical Injuries

**Q.**—*One teaspoonful of sodium bicarbonate in  $\frac{1}{2}$  litre of water has been advocated in the first-aid treatment of those injured by high-voltage electric current. What are the modern views on this treatment?*

**A.**—Fröhlicher and Bull<sup>1</sup> advocate the early administration of sodium bicarbonate in the treatment of major destruction of the tissues by electricity, and they consider it to be a safe procedure for laymen to carry out. Fischer, Fröhlicher and Rossier<sup>2</sup> have described crush syndrome in such cases. Bywaters<sup>3</sup> recommends the hourly administration of sodium bicarbonate, 1 teaspoonful to the pint (0.6 l.) of water. Fröhlicher advises early alkalization for two reasons. First, some of his patients died from renal failure some days after electrical accidents and he thinks they would have been saved by early administration of sodium bicarbonate, which could have been given by laymen. Secondly, he advocates conservative treatment, and he has obtained a

surprising amount of restoration of function in individual cases. British surgeons, on the other hand, generally consider that the risk to life is too great and advocate early and complete resection of dead muscle.

## REFERENCES

- <sup>1</sup> Fröhlicher, R., and Bull, A. S. E., *Transactions of the British Electrical and Allied Industries Research Association*, September and October, 1954.  
<sup>2</sup> Fischer, H., Fröhlicher, R., and Rossier, P. H., *Schweiz. med. Wschr.*, 1947, 77, 826.  
<sup>3</sup> Bywaters, E. G. L., in *British Encyclopaedia of Medical Practice*, 2nd ed., vol. 4, p. 76. London.

## Pruritus Vulvae

**Q.**—*What is the aetiology and treatment of pruritus vulvae in a nulliparous widow aged 39 who menstruates regularly and has no apparent local lesion? The urine is sugar-free and sterile, and she is mentally well adjusted.*

**A.**—Pruritus confined to the vulva is a symptom the basic cause of which must be found for treatment to be rational, for non-specific remedies such as x-rays and cortisone ointments have no lasting effect. Local examination should be repeated, and, in addition to further vaginal swabs to detect monilia, scrapings should be taken from the vulval skin to exclude a fungus infection. Although the urine has so far been free from sugar, a full glucose-tolerance test should be carried out, because, first, glycosuria may be present only when the blood-sugar level is high, and, secondly, pruritus may occur when there is hyperglycaemia without glycosuria. Achlorhydric anaemia is another cause of pruritus vulvae, so a full blood-examination is required and either a test for gastric acidity performed or a therapeutic test applied by giving acid. hydrochlor. dil. m. xv (1 ml.) with meals. Another possibility to be explored is an allergy to some local application (powder, soap, antiseptic) or even to the material or dye in the underwear. Finally, a psychogenic basis for the symptom is sometimes found, and further deeper questioning may show that this patient is not so well adjusted to her widowhood as stated.

## Amphetamine with Phenobarbitone

**Q.**—*Would amphetamine or similar drugs counteract any tendency to sleepiness caused by phenobarbitone in the treatment of epileptic children?*

**A.**—Amphetamine—or preferably dextroamphetamine—is used as a routine by most neurologists to counteract any sleepiness due to phenobarbitone. Children (or adults) may find a dose of 2½ mg. adequate.

**Correction.**—We regret that the notifications of scarlet fever were incorrectly entered as deaths in the Table of Infectious Diseases and Vital Statistics published in the issue of February 27 (p. 661) and the notifications of measles as deaths in the Table published in the issue of March 5 (p. 739). There were no deaths from either of these diseases during the weeks in question.

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