

not seen her sister for some months. I saw a small country-woman, with wiry iron-grey hair, thick eyebrows, tanned skin, and a bright colour. I detected nothing unusual on physical examination, except a blood pressure of 180/90. She said she felt "quite well."

Two weeks later, in very cold weather, during a severe influenza epidemic, I was called to the house because they could not wake her after a night's sleep. She was 64 years of age. On examining her, pupils were equal, reflexes all normal. She was deeply unconscious, with stertorous breathing. I failed to get an immediate hospital bed, so I moved her to a near-by nursing-home. A catheter produced no urine, so diuresis was induced (I was besotted by idea of diabetic coma), and a perfectly normal urine, about 5 oz., passed. I was ignorant of thyroxine, but the nurse had found that by placing a spoonful of liquid at the back of her tongue, and holding her jaw, she could be induced to swallow. We ground up 5 gr. (0.32 g.) of thyroid (B.P.) tablets in a teaspoon of water, and placed it on her tongue. Four hours later she was conscious, but disorientated. This cleared in 24 hours, and she has never looked back. She takes a maintenance dose of thyroid, 1½ gr. (0.1 g.) daily.

The diagnosis was by elimination. I could think of nothing else that would fit the case, and felt a therapeutic trial justified. On reading the literature I realized how grossly I had erred, and how lucky a G.P. may be.—I am, etc.,

Birkenhead.

GRACE BOWEN.

SIR,—I have read with interest the paper by Drs. J. H. Angel and L. Sash (June 18, p. 1855). Under the heading "Other Measures" there is a short note on artificial ventilation. Carbon-dioxide narcosis is believed by Nordqvist *et al.* (personal communication) to be the cause of coma, both their cases regaining consciousness *within ten minutes* of the commencement of artificial ventilation, although treatment with a respirator was required for a further two weeks. The importance of this finding must be stressed. I would suggest that artificial ventilation be considered an immediate emergency measure in the treatment of such cases.—I am, etc.,

Cleveleys, Lancs.

D. W. MACDONALD.

### Reaction after Saccharated Iron

SIR,—On May 9 I gave an expectant mother her second injection of "ferrivenin" (saccharated iron oxide) 5 ml. of Batch 3995. Five minutes later she had a severe anaphylactoid reaction with bronchospasm, restlessness, vomiting, swelling of tongue (subjective), and later urticaria. About 15 minutes after 0.5 ml. adrenaline she improved, and the foetal heart did not seem to be affected. The next day another expectant mother had the same reactions following 2 ml. of the same batch given as the third dose. On this occasion the patient complained of running of eyes and nose, and had her bowels open as well. There was a history of hay fever in this case.

I had previously given to other patients one ampoule (5 ml.) of this batch without ill effects, and have given other batches before and since without ill effects. Messrs. Benger Laboratories Ltd. have since retested samples of Batch 3995 and found no abnormal toxicity. It would be interesting to know if allergic reactions have been previously noted associated with the use of this usually non-toxic drug.—I am, etc.,

London, N.8.

J. DAFF.

### "Phisohex"

SIR,—In discussing the use of "phisohex" for the surgical scrub, Mr. V. J. Kinsella (December 19, 1959, p. 1402) has drawn attention to the different conclusions reached by Smylie *et al.*<sup>1</sup> and Göpel *et al.*<sup>2</sup> Mr. Kinsella has suggested that in the method used by Smylie *et al.* to evaluate the bactericidal effect of phisohex there may have been insufficient contact between phisohex and the antagonist, "tween 80." In view of this it is felt that the procedure used in this laboratory and the results obtained will be of interest.

We were interested in the relative effectiveness of phisohex and a 2% hexachlorophene soap. Previously surgeons in this hospital carried out a five-minute scrub with hexachlorophene soap. Phisohex was used according to the manufacturer's directions, i.e., a preliminary wash followed by a four-minute scrub. A series of swabs were taken after surgeons had scrubbed with hexachlorophene soap and after surgeons had scrubbed with phisohex. In each case pre-operative swabs were taken before the surgeon donned gloves and post-operative swabs immediately after the surgeon removed his gloves. A swab was moistened with nutrient broth containing 1% tween 80, rubbed along the fingers and side of the surgeon's hand, and placed in the same broth. After overnight incubation at 37° C. the broths were plated on blood agar. Broths showing growth were regarded as positive.

To determine whether 1% tween 80 would be a satisfactory antagonist, the following experiments were carried out:

1. The level of phisohex antagonized by 1% tween 80 was determined. Twofold dilutions of phisohex were prepared in nutrient broth and in nutrient broth containing 1% tween 80. Both series were inoculated with *Staphylococcus aureus*, incubated overnight at 37° C., and plated on nutrient agar. Growth in the two series was compared

Inoculum		Phisohex Dilution Showing Growth	
Strain	No. of Organisms per ml. of Broth	Nutrient Broth Containing 1% Tween 80	Nutrient Broth
Phage type 80/81 strain (1)	20,000	1:800	1:8 × 10 <sup>6</sup>
" " 80/81 " (2)	600	1:512	1:2 × 10 <sup>6</sup>
" " 80/81 " (3)	100	1:1,024	1:5 × 10 <sup>6</sup>
	1,000	1:512	1:2.5 × 10 <sup>6</sup>
	10,000	1:512	1:2.5 × 10 <sup>6</sup>
" " Group II	20	1:256	1:5 × 10 <sup>6</sup>

(see Table). The number of organisms in the inoculum used was estimated by the method of Miles and Misra.<sup>3</sup> It can be seen that 1% tween 80 permitted even the most sensitive strains of staphylococci tested to grow in a phisohex concentration of 1:1,000. There is a considerable margin between this and the level of phisohex likely to be present on a swab (see below).

2. It was shown by the use of Miles and Misra counts that 1% tween 80 has no inhibitory effect on *Staph. aureus*.

3. The amount of phisohex likely to be present on a swab taken after a phisohex scrub was estimated. Hand swabs were taken after a surgical scrub with phisohex and placed in nutrient broth. A series of dilutions of this broth was then compared with a series of dilutions of phisohex. Thus we had two series of broths: a test series containing unknown concentrations of phisohex and a standard series containing known concentrations of phisohex. Both series were inoculated with a standard suspension of *Staphylococcus aureus* phage type 80/81. After overnight incubation at 37° C. the broths were plated on nutrient agar. The above procedure was carried out on ten swabs. By comparing the dilutions of broth and phisohex in which growth occurred, it was shown that the concentration of phisohex present in the broth from scrubbed hands was less than 1:200,000.