

(*Chr. prodigiosum*) in the mouth, and studying the fate of the bacteria so deposited by subsequent quantitative culture. Silver is itself bactericidal, and a rapid fall in the numbers of bacteria recoverable was observed in comparison with their behaviour when similarly deposited on a glass slide. Moreover, the wiping of a smooth surface with a fine linen fabric mechanically removes anything deposited on it with a high degree of efficiency, and reductions in bacterial counts of 90% were observed to result from this process alone. From these and other experiments the authors were satisfied that the risk involved is very small, and it is said that in fact no instance of the transmission of infection by this means has ever been substantiated. Their least satisfactory evidence concerns *Myc. tuberculosis*. Experiments with this species were not quantitative, and were concerned only with survival on the surface of the chalice without wiping, but all guinea-pig tests up to 40 minutes after contamination were positive.

## REFERENCE

- <sup>1</sup> *J. infect. Dis.*, 1943, 73, 180.

**Idiosyncrasy to Procaine**

**Q.**—Following a subcutaneous injection of 5 ml. 2% procaine, a pregnant woman had a severe reaction which came on within 10 minutes and lasted for half an hour. It consisted in tachycardia and collapse. No adrenaline was given with the procaine. What is the nature of this reaction, and can the diagnosis be confirmed by patch test or other means? If the diagnosis is confirmed, can the patient be desensitized to procaine, or are there other local analgesics that may safely be used?

**A.**—True allergic reactions to procaine usually manifest themselves as a local dermatitis to direct contact with the drug or urticaria and angioneurotic oedema from injections. The present reaction is due to the toxicity of the drug—that is, it is an idiosyncrasy rather than an allergy. The diagnosis cannot be confirmed by patch tests, but the reaction could be reproduced on further injections. Desensitization is thus not to be expected and I have not seen it reported. It is quite possible that a patient may show toxic reactions to procaine and have no reactions to such drugs as stovaine or supercaine which do not contain a para group. Buff<sup>1</sup> has found that a subcutaneous or intravenous dose of 0.5 to 1 mg. neostigmine methylsulphate will prevent collapse and dramatically reduce the cardiac rate to normal in cases with a toxic procaine tachycardia.

## REFERENCE

- <sup>1</sup> *Amer. Practit.*, 1950, 1, 347.

**Sodium Glutamate in Food**

**Q.**—Sodium glutamate seems to be a frequent constituent of the prepared foodstuffs being imported into this country, and recently in an American method of cooking rice it was recommended as an addition. It is said to be used as a condiment in the East, but I wonder if it has any other value in the cooking of rice and if it is entirely innocuous?

**A.**—Sodium glutamate is usually made from wheat gluten by acid hydrolysis followed by neutralization with soda, but it can also be obtained as a by-product in the sugar beet industry. It is favoured as a means of obtaining a strong meaty flavour from cheap vegetable sources. Under the name "aginomoto" it is used extensively in Japan and China. It is very effective in reinforcing the taste of chicken in dishes consisting mainly of rice. Food manufacturers use it to improve the taste in canned and dehydrated meats. There is no evidence that it is harmful, and it is presumably metabolized in the same way as glutamic acid eaten in combined form in ordinary foods.

**Stability of Antibiotics**

**Q.**—How stable are the commoner antibiotics in the refrigerator and at room temperature?

**A.**—A full answer to this question occupies 12 pages and constitutes Chapter 4 of *Antibiotics: A Survey of their*

*Properties and Uses*, London: Pharmaceutical Press, 1952, to which the inquirer is referred for details. The question presumably refers to solutions, and the stability of these depends not only on the temperature at which they are held, but on other factors such as pH. For example, penicillin is most stable at pH 6.0, and, if the trouble is taken to buffer the solution at this pH, it will last longer.

The only antibiotic so unstable as to cause serious difficulty is aureomycin: solutions of this for laboratory purposes should be made daily. Streptomycin, chloramphenicol, and terramycin are more stable than penicillin, and any of these four will suffer no significant loss of potency in one month or more if the solution is frozen, or in one week at about 4° C. These times may be extended if a loss of potency of the order of 10% is of no consequence.

**NOTES AND COMMENTS**

**Drugs for Hypertension in Pregnancy.**—MR. JOHN SOPHIAN (London, W.1) writes: In the answer to "Any Questions?" of February 13, regarding the place hypotensive-drugs have in the treatment of hypertension in pregnancy, you touch on the merits of (1) hexamethonium and tetraethylammonium compounds and on (2) hydrazinophthalazine, thiopanium, and veratrine. In connexion with the neurogenic factor in hypertension Mendlowitz has classified the site of therapeutic action of hypotensive drugs at four levels.<sup>1</sup> (a) The cortical, where barbiturates and rauwolfia serpentina act; (b) the hypothalamic, affected by protoveratrine and 1-hydrazinophthalazine corresponding to group (2) above; (c) the ganglionic level which reacts to the hexamethonium compounds, equivalent to the classification (1) above; and finally (d) the sympathetic nerve endings themselves. Rothlin<sup>2</sup> has shown that some portion of the pharmacological activity of the ergot derivatives is directed to the peripheral blocking of sympathetic-adrenergic vasoconstrictor stimuli and that they have proved most useful for this purpose. The value of hypotensive drugs essentially needs to be considered along with the electrolyte NaCl, whose depletion appears to affect the non-neurogenic or intrinsic factor in hypertension, helping to reduce the blood pressure. The therapeutic agents in group (b) and (d) have a noticeable effect on the kidney. According to Moyer *et al.*,<sup>3</sup> 1-hydrazinophthalazine increases the renal blood flow in anaesthetized dogs. Simultaneous exhibition of adrenaline or noradrenaline showed that this was a preferential decrease in peripheral resistance in the kidney to that in the extremities, in which there was no change in blood flow; while Willson and Smith<sup>4</sup> found that intravenous veratrine in the vagotomized animal heightened the perfusion rate of the isolated kidney. It is not improbable that the effectiveness of these therapeutic agents in toxæmia lies in the relief of an underlying renal ischaemia. Work on the ergot derivatives supports this view, as I mentioned recently in a letter in the *Lancet*.<sup>5</sup> I therefore feel that the barbiturates and the ergot derivatives should find inclusion in the reply and that the corollary of salt restriction needs emphasis.

## REFERENCES

- <sup>1</sup> Mendlowitz, M. (1953). *Ann. intern. Med.*, 39, 999.  
<sup>2</sup> Rothlin, E. (1944). *Helv. physiol. acta*, 2, C48.  
<sup>3</sup> Moyer, J. H., Handley, C. A., and Huggins, R. A. (1951). *J. Pharmacol.* 103, No. 4, 368.  
<sup>4</sup> Willson, J. R., and Smith, R. G. (1943). *Ibid.*, 79, 208.  
<sup>5</sup> Sophian, J. (1954). *Lancet*, 1, 107.

**Correction.**—In the obituary notice of Major-General W. H. S. Nickerson, V.C. (April 24, p. 989), we stated that he left Portsmouth Grammar School to become a medical student. This was a mistake, for it was from the Manchester Grammar School that he went on to Owens College.

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