

rine-suspended lymph against the staphylococci which are greatly reduced in number within 72 hours. Crude non-concentrated watery extracts of Penicillin have been used for the purpose.

It is hoped soon to publish detailed reports of experiments on the use of Penicillin for sterilising cow-pox lymph so as to shorten the time of storage.

Public Health Institute,
Bangalore,
May 2, 1945.

C. V. NATARAJAN.

Post-script.—After the above note was written, it was noticed in the letter to the Editor of the *Journal of the American Medical Association*, from Brazil, wherein it is stated that Dr. C. Miranda, of the Oswaldo Cruz Institute, Rio De Janerio, has been experimenting with Penicillin on the same lines, i.e., to sterilise cow-pox vaccine by Penicillin, so as to make cow-pox vaccine available for general use within a few weeks, instead of a year or longer, as obtains now.

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TETANISATION OF THE HEART

It is generally believed that heart muscle cannot be tetanised. We have come across frogs, the hearts of which resembled striated and unstriated muscle, in that they were thrown into a complete tetanus by frequent stimulation with induction shocks (Fig. 1). The results

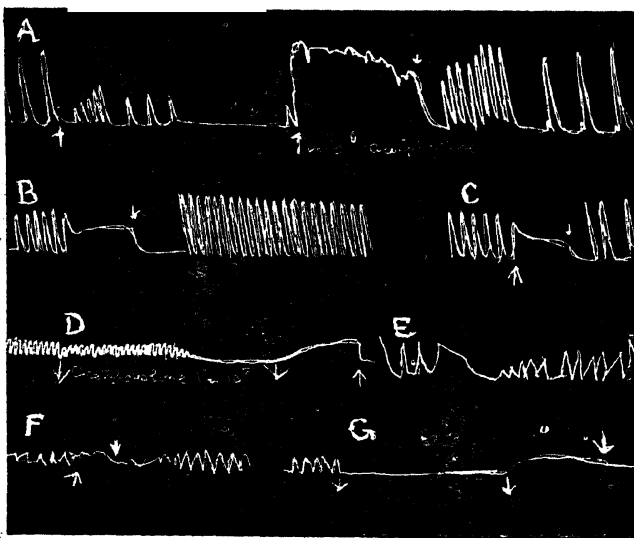


FIG. 1. *A.* Frog heart. Acetylcholine 1 in 10^9 added at first arrow. Stimulated with induction shocks from 2nd to 3rd arrow. Note the tetanus. After stimulation, the heart may be at standstill or hyperirritable. *B.* Frog heart. Note complete tetanus. After effects same as in IA. *C.* Frog heart same as IB. *D.* Effect of acetylcholine. Complete tetanus on stimulation. *E.* Same as IB. *C.* *F.* Frog heart, incomplete tetanus. *G.* Same heart as in F; addition of acetylcholine at first arrow. Subsequent stimulation with induction shocks. Note acetylcholine converts incomplete into complete tetanus.

obtained were similar to those in striated muscle, incomplete tetanus passing into tetanus.

Doubling the concentration of calcium in the Ringer solution prevented the tetanus, the heart responding by frequent beats instead (Fig. 2). This effect of calcium in preventing tetanus resembles that found in plain muscle (Singh, 1938). Acetylcholine had a normal effect. When the heart was brought to a complete stand still by the drug (1 in 10),

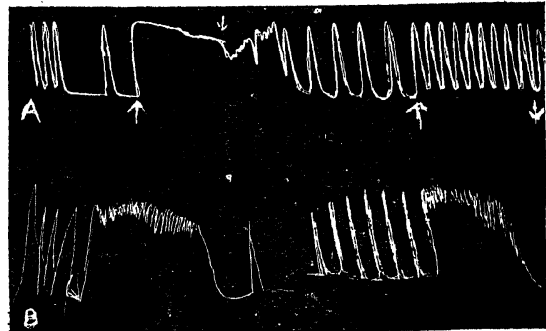


FIG. 2. Frog heart. Effect of calcium (twice normal) on tetanus. *A.* Complete tetanus. On cessation of stimulation at the 2nd arrow, the heart is still contracted. The solution now contains double the calcium content. Stimulation between 3rd and 4th arrow shows no tetanus; the heart is slightly contracted, and rate increased. *B.* Frog heart, tetanus. With adaptation the tetanus becomes more incomplete, as happens in the plain muscle. The 2nd figure shows the effect of doubling the concentration, same as in IIA. This suggests that as in the plain muscle, adaptation is due to liberation of calcium.

stimulation with repeated induction shocks produced tetanus.

INDERGIT SINGH.

K. B. SEHARA.

MRS. SUNITA INDERGIT SINGH.

Department of Physiology,
Medical College,
Hyderabad (Sind),
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I. Singh, I., *J. Physiol.*, 1938, 94, 322.

BLOOD GROUPS AMONG THE MAKRANIS OF WESTERN KHANDESH

THE bloods of 108 Makranis ages varying from 5 to 40, all of whom were born in their present domicile, were tested by the 'tube method'. The testing sera were supplied by the Haffkine Institute, Bombay, through the Gujarat Research Society. A few cases in which doubtful reaction (W or ?) occurred were retested against anti-A serum of known titre with capacity to react with known A, B cells, made in Lucknow. The following was the result of the grouping tests.

The Makranis belong to the same racial stock as the Baluchis and a comparison of the blood groups' incidence among them with that of the Baluchis may be of interest. According to the blood group data collected from 74 Baluchis of Baluchistan by Malone and Lahiri (1927),¹ there are 47.2 per cent. O, 24.3 per