

venous injection of NaCl. These experiments confirm our previous findings.

It will be noted that in alkalosis there is an increase in the total base content of the muscle. The increase of base in muscle as well as in plasma is more marked when the base was introduced orally than intravenously. This might be due to the fact that larger doses were used for oral administration. There is also a decrease of Cl content in the muscle in alkalosis produced by oral administration of alkali, but intravenous injection of alkali has no significant effect on muscle Cl. No significant change in muscle base and Cl was observed in acidosis. The changes in CO<sub>2</sub> content of the muscle are just what we might expect. The water content of the muscle is not significantly changed by our experimental procedure.

The alkalosis produced in our animals was accompanied by an increase of base and decrease of chloride in the plasma, but the acidosis was not accompanied by the reverse effect. It appears therefore that the base and chloride contents of muscle vary with the base and chloride concentrations of the plasma, but they are not significantly influenced by pH changes as such.

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### Isolation of *Treponema pallidum* from Juxta-articular Nodules

CH'UAN-K'UEI HU AND CHESTER N. FRAZIER.

*From the Peiping Union Medical College.*

The syphilitic nature of the juxta-articular nodules occasionally seen in syphilitic patients is generally accepted principally because of the prompt response of the lesions to arsphenamine therapy. Since the nodules are usually encountered in patients in the later stages of the infection, the failure to demonstrate organisms by the dark-field or in stained tissue sections is presumably due to their scarcity. Animal inoculation offers a more hopeful means of success and although the method has apparently not been widely used, one successful result has been reported<sup>1</sup>. This method was employed in 2 of the 5 cases of juxta-articular nodes in syphilitic patients seen in the Peiping Union Medical College<sup>2</sup>. One attempt was successful;

<sup>1</sup> Jessner, M., and Rossiansky, N., *Arch. f. Derm. u. Syph.*, 1930, **160**, 224.

<sup>2</sup> Hu, C. K., and Frazier, C. N. *Chinese Med. J.*, in press.

the failure in the second case may have been due to the fact that arsphenamine had been administered 3 days before admission.

The patient gave a history of venereal exposure and a genital chancre 12 years before admission; the blood Wassermann and Kahn reactions were positive. There were several small firm, non-tender nodules in the subcutaneous tissue below both elbows and over the great trochanters. One nodule (1.0 x 1.0 cm.), removed under local anesthesia, was finely emulsified with sterile normal saline. All the suspension was used for inoculation, 1.0 cc. being injected into the right testicle of 2 normal rabbits. In both animals, an orchitis developed 10 weeks after inoculation and the blood Wassermann reaction became positive. In one rabbit, *Treponema pallidum* were demonstrated in the material aspirated from the testicular lesion; a metastatic lesion of the uninoculated testicle developed 3 weeks after the primary orchitis was detected. Spirochetes were not seen in the material aspirated from the second rabbit which died from an intercurrent infection.

The result of this work supports the opinion that juxta-articular nodules in syphilitic patients are syphilitic lesions. Although a blood stream infection was not excluded in the present instance, its possibility in a disease of 12 years' standing is unlikely.