DISCUSSION

Organisms which have been identified in bacteriological examination of acute alveolar abscesses include streptococci of haemolytic, viridans and indifferent types, Staphylococcus albus, Staphylococcus aureus, Staphylococcus citreus, Micrococcus tetragenus and bacilli of the mesentericus, proteus and coliform groups. Those identified from chronic abscesses include, as well as the above-mentioned organisms, Streptococcus pneumoniae, Bacillus typhosus, Diphtheroids and Hæmophilus influenzae.

It might be expected that, as many of the above organisms are streptomycin sensitive, the antibiotic would have some effect on these conditions. This has not been the case so far.

It is known, however, that some acute alveolar abscesses develop as an exacerbation of a chronic peri-apical infection. With respect to this, it must be stated that the effect of most drugs used in the treatment of chronic infections associated with the formation of granulation and fibrous tissue is very slow acting. For example, streptomycin therapy takes months to affect the course of chronic tuberculosis. Thus the period of observation has been insufficient to draw any definite conclusions regarding its effect on chronic inflammatory conditions of dental origin.

CONCLUSIONS

The doses of streptomycin and PAS given for treatment of pulmonary tuberculosis do not seem to affect the course of common dental conditions. PAS does, however, stain the teeth.

I wish to thank the Commanding Officer of the Connaught Military Hospital, Hindhead, for his permission to publish the above article.

A MEMORIAL TO

MAJOR-GENERAL SIR DAVID BRUCE, K.C.B., F.R.S.

Introducing the David Bruce Laboratories

BY

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Army Council Instruction No. 63 of January 27, 1951, directs that the Army Vaccine Laboratory be renamed the David Bruce Laboratories.

Behind this somewhat bald statement lies the story of the evolution of one of the most important units in the Army Medical Service, and its association with one of the Corps' greatest pathologists.

*Bacterium typhosum or Salmonella typhi are the modern names.
No more appropriate name for such an establishment could be found than that of David Bruce, who, in association with Sir Almroth Wright and Sir William Leishman, did so much to develop immunology in the Medical Services and to lay the foundations of a department which dealt exclusively with this problem.

David Bruce joined the Corps in 1883. It was during his first foreign tour from 1884 to 1889 in Malta that he carried out his research work which led to the recognition of the Micrococcus (now, in his honour, named Brucella) melitensis as the causative organism of Malta fever (Practitioner (1887), 39, 161). During the same tour, he also conducted an enquiry into an outbreak of cholera.

On his return to England in 1889, he was appointed Assistant Professor of Pathology at Netley, an appointment which he held for five years. During this period he was associated with Sir William Aitken, who had been appointed the first Professor of Pathology in 1860, and Almroth Wright, who succeeded Sir William in 1892.

While at Netley, Bruce continued his work on the bacteriology of Malta fever, and, having studied bacteriology under Koch in Berlin, instituted the first systematic course in the subject to be given in any British medical school.

Haffkine visited the Army Medical School at Netley in 1892 to demonstrate his method of inoculation against cholera by the injection of live cultures of the causative vibrio. This method of preparing the vaccine was later demonstrated to the class, and it is possible that it played an important part in suggesting to Wright and his co-workers the practical possibilities of anti-typhoid immunization.

During his next foreign tour, in South Africa from 1894 to 1901, Bruce began his work on trypanosomiasis, and took part in the defence of Ladysmith. He also served on a commission which investigated outbreaks of dysentery and enteric fever during the South African War, the report of which was presented to Parliament in 1902.

From 1904 to 1906, Bruce was chairman of the Royal Society's Commission on Malta fever which demonstrated the mode of transmission of the disease, and thus completed the cycle of his own work. Previously, Wright at Netley had developed a serum-agglutination reaction which led the Royal Navy to adopt "Mediterranean fever" as an official diagnosis in 1897.

Bruce's work in Africa on trypanosomiasis is internationally famous, and in 1912 he was promoted Surgeon-General for his scientific services. Shortly after his arrival in South Africa in 1894 he was instructed to proceed to Zululand at the request of the Governor of Natal to investigate an outbreak of nagana (trypanosomiasis of cattle). Bruce was accompanied by his wife, who was his able and energetic assistant throughout his researches, and proved that nagana and tsetse fly disease were identical and due to a trypanosome. This was the first occasion in which insect transmission of a pathogenic protozoon had been proved. Further work was interrupted by the South African War.
In 1903 he went to Uganda as a member of the Sleeping Sickness Commission where, with Aldo Castellani, he demonstrated the pathogenicity of *Trypanosoma gambiense*, its transmission by *G. palpalis*, and the importance of game as a reservoir.

In 1908 he became Chairman of the Sleeping Sickness Commission and in that capacity worked in Uganda from 1908–1910 and in Nyasaland from 1911–1914, investigating the connexion between the parasites, vectors and diseases affecting game, animals, stock and man.

Less well known is his work during the first World War, when, as Commandant of the Royal Army Medical College (1914 to 1919), he also served on the committees for the study of tetanus and trench fever. It was largely due to the work of these committees that the efficacy of the prophylactic injection of anti-tetanus serum in the prevention of tetanus was demonstrated.

During 1898, a trial of an anti-typhoid vaccine produced in the Army Medical School, Netley, was carried out on volunteers in the British Army in India, and in the following year, no less than 30,000 men were inoculated against typhoid. In the year 1902, the Army Medical School moved from Netley to London, and vaccine production continued in the Royal Army Medical College at Millbank until the outbreak of war in 1939.

Immediately after the declaration of war in September 1939 the Vaccine Department of the Royal Army Medical College moved from Millbank to Tidworth, where it was known as the Emergency Vaccine Laboratory. In July 1942 it was transferred to the Manor House, East Everleigh, and joined up with the subsidiary or serum laboratory which had moved there some months previously. After the end of the war, it was recognized that the functions of the unit had expanded considerably, and in 1946 the name was consequently changed to the Army Vaccine Laboratory. At present, in addition to its principal function of supplying the Army's requirements of vaccine and allied diagnostic products, it acts as a reference laboratory for organisms of the Salmonella and Shigella groups, carrying out research work on related problems, and also has a Blood Transfusion Department which fills the role of the wartime Army Blood Supply Depot, Bristol.

General Bruce retired on May 1, 1919, and died on November 27, 1931. His imposing and commanding figure, his somewhat brusque and incisive manner and his brilliant record will long be remembered by officers of the R.A.M.C.

The work of Bruce was of world-wide interest and of lasting value in bacteriological research, and included work on organisms which are the special concern of the Everleigh establishment: his application of this work to the health of the soldier in peace and war must be an inspiration to all Army pathologists. What finer reasons can be found for honouring David Bruce by associating his name with the laboratories which are the lineal descendant of those at Netley in which he worked and those of the College which he subsequently commanded?

March 1951.