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A clinical experiment in subacute streptococcus endocarditis.

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Permission having been obtained, an attempt was made to study the effect in a patient with Subacute Streptococcus Endocarditis of inoculation with autogenous, living organisms. Without previous observations, and without knowing whether the effects would harm or benefit the patient the utmost caution was used with regard to dosage. Four inoculations were made within a period of four weeks. The first two injections were intracutaneous, the second subcutaneous and the fourth consisted of infected agar injected subcutaneously. The first injection consisted of about two cubic millimeters of broth culture attenuated by freezing and melting five times so that the resulting culture yielded weakly growing subcultures. No reaction followed this injection up to six days.

The second injection consisted of four cubic millimeters of broth culture that had remained in the ice box four days. No reaction followed during the same interval.

The third injection consisted of five cubic millimeters, injected subcutaneously, of twenty-four hour broth culture. No reaction followed.

Ten days later 1 cc. of melted agar freely inoculated with twenty-four hour broth culture was injected subcutaneously. No reaction followed.

A moderate clinical improvement could not certainly be ascribed to this procedure and all inoculations were discontinued one month before death.

Following these clinical observations, rabbits were inoculated with cultures intradermally and with infected agar subcutaneously, using the same streptococcus. No reaction followed immediately or at any time up to ten days after inoculation.

Although it is easy to reproduce the disease in dogs by using a non-hemolytic streptococcus obtained from a case of Acute Rheumatic Fever, attempts were unsuccessful in three dogs when strains from two cases of Subacute Streptococcus Endocarditis were used.

It is further interesting to note that in the experiments in dogs in which the more virulent streptococcus was employed, the animals suffered a rapidly rising bacteriemia while patients displayed a constant number of colonies in culture. But when such animals, two in number, were infected with the same streptococcus previously agglutinated, the bacteriemia was more constant like that of patients.

Strains from Acute Rheumatic Fever, when injected subcutaneously in rabbits produce abscesses, and agar infected with such a strain and injected subcutaneously in dogs produces a similar result.

It seems therefore, that cultures from patients with Subacute Bacterial Endocarditis, are in effect "sensitized" or agglutinated cultures.

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Some metabolic aspects of calcium therapy.

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Excretion of the various mineral elements was followed for a period of ten days after a diet of known inorganic composition. During the last four days of the experiment a measured amount of calcium acetate was taken by mouth.

Balance sheets, for the four day period of calcium acetate and the four day period preceding, show that calcium has no effect on the metabolism of any element except phosphorus. There was no increase in the excretion of sodium as after the administration of potassium salts. The amount of phosphorus excreted in the urine was decreased and the amount excreted in the feces was increased during the calcium acetate period. With this decrease in the phosphoric acid load on the kidney the amount of ammonia excreted in the urine was also decreased.

In another experiment similarly conducted, it was found that the administration of potassium or magnesium acetates had no influence on the partititon of phosphorus in the urine and feces, whereas the effect of calcium chloride was similar to that of calcium acetate.