

peared. Since these effects could possibly be explained by an increase in carbohydrate metabolism, we have studied the effect of the calorogenic principle upon the sugar and protein metabolism in depancreatized dogs.

The accompanying chart shows a typical experiment in a dog 3 months after operation. During this period the dog was placed on exactly 1,000 gm. lean meat plus pancreatin and 14 units insulin, which permitted a sugar elimination of 25 to 30 gm. daily. One cc. of cortical extract representing 45 gm. of whole gland given hypodermically daily caused a diminution in the urinary sugar and nitrogen. No constant ratio was noted between sugar and nitrogen elimination. In several experiments the decrease in the sugar elimination was greater than that which could be accounted for on the basis of decreased protein metabolism.

The decrease in the sugar elimination was constant in 8 experiments on 3 depancreatized dogs when a calorogenic active substance was given. In 4 of these experiments the extract was given by mouth and in 4 it was injected hypodermically. In the first 2 dogs the treatment periods were limited to 3 or 4 days so as to observe the return of the sugar and nitrogen to the level before treatment. In experiments on the third dog attempts were made to extend the treatment over longer periods. However, after 4 to 6 days of treatment the sugar elimination gradually rose again in spite of continuous treatment. A period of a week or more had to elapse before the urinary sugar could again be depressed. Death of the first 2 dogs has prevented our repeating the prolonged treatment effect on them.

Control experiments with epinephrin (0.25 to 1.0 mgm. hypodermically or 10 to 30 mgm. orally) have failed to give any depression of the sugar eliminated. Epinephrin given hypodermically elevated the sugar elimination in all cases.

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#### A Study Concerning the Incidence of *Streptococcus Epidemicus*.

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The occurrence of septic sore throat and of carriers of *Streptococcus epidemicus* during inter-epidemic periods has become a mat-

ter of importance. Pilot and Davis<sup>1</sup> have recently published results of a study of this subject in Chicago.

It is of interest to note that an epidemic of septic sore throat has never been experienced in Southern California. In so far as can be determined, bacteriological studies for the identification of *S. epidemicus* have been neglected.

Our investigations over a period of 4 months, have resulted in rather interesting findings. In a group of 250 employees of a local institution, 7 positive cultures of *S. epidemicus* were obtained from throat swabs. Each individual harboring *S. epidemicus* was in good health and gave no history of having had sore throat of the epidemic type, but in each instance presented some degree of tonsillar hypertrophy. This represents a carrier group of 2.8%.

In a second group of 66 individuals presenting themselves for operation for hypertrophied tonsils, 6 positive cultures were found. A history of previous attacks of probable septic sore throat was not obtainable. Of these individuals 9% harbored *S. epidemicus*.

Pilot and Davis have stated that a higher per cent of positives is obtained when cultures are made from depths of tonsil crypts. Our experience confirms this observation.

A positive culture was obtained from a typical clinical case of septic sore throat with marked edema of pharynx and glottis. This case recovered without secondary complications and was the only person in a family of 4 to be stricken.

Two cases of otitis media in children with subsequent mastoiditis were found to be of *S. epidemicus* origin.

Among 5 cases of septicemia, all with positive blood cultures, in a hospital for children, 2 proved to be due to *S. epidemicus*. In neither case could a history of previous typical septic sore throat be elicited. One of these cases had an acute endocarditis which was verified at autopsy.

The initial specimens in all cases were obtained in nutrient broth, and cultural studies carried out on 20% ascitic blood agar as advised by Pilot, Hallam and Davis.<sup>2</sup>

*Conclusion.* Over a period of 4 months, 18 strains of *Streptococcus epidemicus* have been recovered; 5 from individuals suffering from acute infections and 13 from human carriers. Thus, verification of the presence of *S. epidemicus* in various types of infection and in the carrier state during inter-epidemic periods is offered.

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<sup>1</sup> Pilot, Hallam and Davis, *J. Infect. Dis.*, 1930, **47**, 503.

<sup>2</sup> Pilot, Hallam and Davis, *J. Am. Med. Assn.*, 1930, **95**, 264.