

A culture of the bacillus typhi abdominalis taken from an old laboratory stock was inseminated in 1.5 per cent. acid broth, and grown in the incubator at the usual temperature for twenty-four hours. The culture obtained was then killed with formalin vapour and used as a standard. A glycerine agar culture of the tubercle bacillus referred to was ground up in a sterile mortar with sterile normal saline solution. This was allowed to stand until the heavier portions had sunk to the bottom. The opalescent supernatant portion was carefully decanted off and diluted with sterile normal salt solution, until it reached the same degree of opacity as the standard culture of the bacillus typhi. Hanging-drops were then examined under the microscope, to see that there were no gross masses of bacilli floating about. One cubic centimetre of this material was then used for inoculating. Care was of course taken, as far as possible, to avoid contamination in the course of the various manipulations, sterilized vessels and instruments being invariably employed.

The animals were shaved at the desired points and the skin sterilized with bichloride, 1-1000. The inoculations were made with an all-metal syringe of five c.c. capacity, previously boiled.

The reason for using a culture of weak virulence to begin with, was that guinea-pigs are very susceptible to tuberculosis, and it was suspected, from observations already published, that should goat serum possess any antitoxic powers, these would be extremely slight.

One half of the animals were inoculated subcutaneously over the abdomen with two c.c. of normal goat serum every second day. Subsequently the temperatures were taken every day, and the weights once a week.

Instead of estimating as others have done, the effect of the injections, by keeping the animals until they die spontaneously, and taking into consideration merely the loss of weight, it was thought advisable, as we were dealing with germs of such mild virulence and there was a possibility of the animals recovering, to kill them at stated intervals, and determine the amount of tuberculosis by the naked eye and the microscope. By this method an exact appreciation of the state of things could be obtained. By arranging them in pairs, according to weight, it was moreover possible to compare animals of approximately the same degree of resisting power.

Two guinea-pigs and two rabbits died spontaneously before the conclusion of the experiment, apparently from some gastro-intestinal disturbance. The rest of the pigs were killed after thirty days, and one-half of the remaining rabbits about the same time. The first animals killed presented so little pathological change, that it was thought