

## PATHOLOGY AND BACTERIOLOGY

IN CHARGE OF

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### FORMALINE GELATINE: A NEW MODE OF ANTISEPTIC TREATMENT.

In the *Therapeut. Monatsch.*, Dr. Schleich relates his experiences in the use of formaline gelatine in the treatment of wounds. The formaline gelatine is prepared by drying gelatine dissolved in water over formaline vapor. A firm, resistant, stony, hard transparent body is thus formed. The question first to be decided was whether the gelatine would gradually dissolve and give off its formaline, and in this way set up a continued state of asepsis in its neighborhood. In the first experiment resection of intestine was performed on a rabbit, and before closing the abdominal wound a piece of formaline gelatine the size of an apple was introduced into the abdominal cavity. The animal was killed six and-a-half weeks later and only a minute remnant of the gelatine was found in the midst of the newly-formed connective tissue. Further experiments were modified by the author to the extent that a quantity of virulent bacteria cultures was mixed with finely-powdered formaline gelatine and introduced into the system, all of which were absorbed without any reaction. These results led the author to use the gelatine in the treatment of wounds in the human subject. It was used in the form of powder, and Dr. Schleich became satisfied that it was gradually decomposed by continuous freeing of formaline, and consequent steady asepticism of the wound. Up to the time of writing he has used it in 120 cases of acute suppuration, 93 aseptic healings of wounds, 4 compound fractures, and 2 deep scalp wounds, and he was in a position to state that by its means, all acute suppurations were cut short, and that in every wound an aseptic course could be guaranteed without the adoption of any further measures. Where necrotic tissue was present, however, it was powerless, as contact with sound tissue alone was able to set free the formaline. In order to render it serviceable in such cases a means must be discovered of setting the formaline free outside the body, and such a means has already been found by the author in a peptic acid solution (pepsin 5 parts,

acid hydrochl. 0.3 parts, water to 100. The powder with which the wound is powdered requires moistening with the above pepsin solution. The mode of preparation of the formaline gelatine is given by the author.

The fact that when the gelatine was enclosed within the system it became eventually completely replaced by connective tissue led the author to still further experiments. These led to the conclusion that formaline gelatine, being procurable in any shape, and on being heated capable of being moulded into any form, it might be employed for the plastic connective tissue closure of defects of all kinds. Impregnated with lime salts, it proved itself capable of replacing pieces of bone removed in the course of resection.—*Berlin Cor. Med. Press and Circular.*

UPON THE SPECIFIC PECULIARITIES OF THE PROTECTIVE SUBSTANCES FOUND IN THE BLOOD OF ANIMALS IMMUNIZED AGAINST THE BACILLUS TYPHI AND THE BACILLUS COLI COMMUNIS.—Löeffler and Abel (*Centralblatt für Bacteriologie und Parasitenkunde*, Bund xix. Nos. 2 and 3, January 23, 1896) experimented with four cases of virulent typhoid and two of virulent colon bacilli. The exact minimal fatal dose of cultures of the various bacilli was carefully worked out by inoculation into guinea-pigs. The animals selected for immunization were dogs. Each animal received inoculations of live cultures in increasing doses, until at the end of about three months it was found that protective substances were present in the blood.

The results of the work are summarized as follows:—

(1) The immunization of dogs to increasing doses of virulent cultures of bacillus typhi and bacillus coli communis produce in the blood of these animals specific protective substances operative against the particular bacillus by which they have been produced.

(2) The normal serum of the dog, without any preliminary treatment, has a protective power, not only against the minimal fatal dose of the bacilli,