

action upon the cells. In diphtheria this is of little importance because the germs are thrown off very rapidly, and the poison will not pass into the system. In streptococcic and staphylococcic cases, the germs are practically in closed cavities, and instead of being thrown off are continually absorbed. We might get an antistreptococcic serum which would counteract the soluble toxins and be of service in the case if administered early, but it would not have any effect on the latter named poisons. In the successful case referred to by the reader of the paper I am doubtful if the serum had any effect. There would be a greater difference in the character of the antistreptococcic serum than there would be in the diphtheritic serum, as the streptococcus varies so tremendously in its virulence. So to get an active serum, it would be necessary to get an exceedingly active culture. Marmorek's serum was so virulent that he claimed a single organism introduced into a rabbit would kill it in seventeen hours.

Dr. Primrose pointed out that not only was there a difference in the toxins produced during life from those produced by the death of the germs, but that the action of the serum of those administered in cases of infection from the streptococcus was different in its action from that of the diphtheritic and tetanic serum: the antistreptococcic serum was germicidal, while the antidiphtheritic was not germicidal.

Dr. Temple asked if there were any indications for section and drainage of the abdomen.

Dr. A. A. Macdonald said that bearing upon the clinical value of antistreptococcic serum the communication of Dr. John D. Williams, as it appears in the *British Medical Journal* of October 31, 1896, ought to be considered. Though fourteen cases of severe puerperal septicæmia were reported, and though an amelioration of the symptoms followed the injections of the serum, the general results did not seem to be any better than what one would expect from local treatment by the use of rigid antiseptic methods combined with the ordinary general treatment commonly employed. Two of the cases proved fatal, and after the post mortem, Gaulard attributed death to the use of too much serum, viz., 10 c.cm. of serum (Marmorek) on the fourth, fifth, sixth and seventh days after confinement.

There appears to be a marked difference in the strength of the serum, as 60 c.cm of British Institute serum were injected in one case in three days, and 85 c.cm. in another case in two days, both recovering. The British Institute of Preventive Medicine fixes the initial dose at 20 c.cm., to be followed by another 20 c.cm. if the temperature has not fallen. In view of the unsettled state of scientific opinion at the present time, it is well to be cautious in the use of