

Progress of Medical Science.

SURGERY.

IN CHARGE OF EDMUND E. KING, HERBERT A. BRUCE AND L. M. SWEETNAM.

Reactions in Cases of Wounds and Ulcers Treated by Oxygen Gas.

George Stoker (London *Lancet*, December 10th, 1898) gives the history of some cases of ulcers treated with oxygen gas, showing their toxic reaction, and giving their temperature charts. In nearly all cases treated by oxygen gas a distinct toxic reaction occurs at a period varying from a few days to a few months, and from the time of such occurrence the wound or ulcer heals much more rapidly. The discharges contained staphylococcus pyogenes albus aureus, or citreus. The points of special interest in these cases were, (1) that healing was not delayed, but was accelerated during and after the time the temperature was highest. (2) That the wounds did not become inflamed or dry, and the discharge continued healthy. (3) That there was a good deal of inflammation of the lymphatics and some swelling of the glands in the neighborhood of the ulcers. (4) That in some cases small secondary areas of infection existed where small abscesses formed, burst and healed rapidly. (5) That in all the cases observed the general malaise, or disturbance, was small in comparison with the height of the temperature. The tongue remained clean, there was little headache, and no sickness. Taking these facts into consideration, the author concludes that oxygen acts by forming an antitoxin from the secretion of the micro-organisms in the wound or ulcer. It is possible that the antitoxins which are made by injecting horses, etc., with toxins, are formed by a similar process of oxidation, which takes place in the blood of the animal. This would suggest the necessity of preparing an antitoxin for each separate case from its own micro-organisms, especially in more malignant forms, it being presumed that an antitoxin must have a toxin present on which to act or react. Antitoxins have been prepared by passing a stream of oxygen over a broth culture of the micro-organisms from each case; the broth is then dropped on the wound, where it is absorbed. The results from this method have been satisfactory, not only in cases of a non-malignant character, but also in cases of lupus and rodent ulcer. It is hoped and