

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

As we approach the Millenium I thought it would be interesting to see what our forebears were writing about 100 years ago. The Journal of Laryngology, Rhinology and Otology was then published by Rebman Publishing Company, Limited, 11 Adam Street, Strand, London, W.C.—Editor

**THE TREATMENT OF SUPPURATIVE DISEASES OF THE ACCESSORY
SINUSES OF THE EAR BY OZONE GAS**

by W Scheppegrell MD

Pure ozone is a powerful oxidizing agent; it possesses strong bleaching and disinfecting properties, and attacks cork, rubber, and other organic substances. The test for ozone may be obtained by means of a strip of paper moistened with a mixture of starch and a solution of potassium iodide. On exposing paper thus prepared to the action of ozone, the potassium iodide is decomposed, the potassium combining with the oxygen, while the iodine is liberated, and forms a deep blue compound with the starch. For ordinary purposes I simply moisten a piece of blotting paper with a solution of iodide of potash, and the exposure to the ozone liberates the iodine, which shows its characteristic brown colour. Ozone is a rapidly oxidizing agent, and in sufficient degree of concentration is very irritating to the mucous membrane of the respiratory passages.

In my first experiments with ozone for its therapeutic effects I generated the ozone directly from oxygen, and then diluted it sufficiently for local application to the affected regions. I found the ozone in this degree of concentration difficult to handle on account of its rapid oxidizing effect, especially as it quickly attacked rubber. I then concluded to prepare the ozone directly from the oxygen found in the atmosphere. This was not only more economical, but the ozone could be used directly, as it was prepared in the required degree of dilution.

In applying ozone to the nose or accessory cavities, care should be taken that the patient does not inhale the ozone. This may be avoided by allowing the vapour, which is under the control of the patient, to pass only during the acts of expiration, the cut-off being closed during inspiration. The applications need not be made for more than ten to twenty minutes, and should be repeated not oftener than two or three times a week. As regards the constitutional effects, I have noticed, in some cases, headaches which persisted for several hours after the treatment; but in each of the cases in which this occurred it could always be traced to the fact that the patient had not controlled the cut-off properly, and had inhaled a considerable amount of ozone. Where the method was carried out correctly, no bad effects were ever complained of.

I have also used ozone in two cases of ozœna, and the results thus far have been encouraging. Ozœna, however, is a pathological condition of such a chronic character that I abstain from comparing the results obtained with those following other methods until I have had them under observation for a longer time.

As regards the bacteriological investigation of this subject, I would state that the ozone not only inhibits the development of the cultures from the micrococci pyogenes aureus and albus, and other micro-organisms, but also destroys these germs in the culture medium. Where the ozone is present in sufficient quantities, even the culture medium is attacked and oxidized.

Ozone is a most useful agent in the treatment of suppurative diseases of the nose and ear, but it should be used with the precautions that are required with other agents of this kind. Bichloride of mercury has powerful corrosive properties, but this does not debar us from using it in its diluted solutions for its excellent antiseptic qualities, and the same principle refers to ozone. When used as I have described it in this article, I have never seen any injury from its application. In one case in which the application was too prolonged, a condition somewhat resembling an acute coryza was produced, which, however, had disappeared the following day.

The results which I have thus far obtained from the use of ozone in the treatment of purulent diseases of the upper respiratory passages, have been of such a satisfactory nature that I feel encouraged in its use. Where the physician has a good induction coil, the method is of trifling expense, as the ozone is obtained from the oxygen of the atmosphere with which we are surrounded. The technique is simple and its application presents no difficulties.