

as far as I have been able to judge, from the various authorities, the system I should advocate would be that of irrigation. It appears to me the cheapest, the most easily worked, and taken all together, the most remunerative. Holding this idea, I would like to see the system adopted in Toronto. We have here, as you are doubtless aware, what may be styled a gigantic cesspool for our water front. Something has to be done in the very near future to remedy this evil. For this purpose it is necessary, first, to build one or more large off-take sewers, to convey the sewage matter to tanks, from whence it could be pumped up to the light soil in the neighborhood of Scarboro' Heights, where an extensive sewage farm might be formed. On this point I hope to hear some practical suggestions made by members of the Association, and which I trust will be of such value as to help our city authorities and the citizens generally, to vote intelligently on any scheme that may be submitted to them.

THE ELECTROLYTIC TREATMENT OF UTERINE FIBROIDS AND HYPERTROPHIES.

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The Apparatus.—The electrolysis of uterine fibroids was suggested in 1867 simultaneously by Dr. Julius Aulthaus, of London, and by Dr. Robert Newman, of New York. In 1878 Dr. Cutter, of Boston, reported fifty cases treated by means of electrolytic needles passed through the abdominal walls. In 1882 Dr. Apostoli, of Paris, a pupil of Tripier, made a new departure in the use of electricity in gynecology. Previous to this Aulthaus, Cutter and others had proved that some good could be done, but the current used was "insufficient, uncertain and unmeasured," and the operation was painful, empirical and dangerous. By Apostoli's method currents of a strength formerly impossible can be used, its exact strength can be measured and the application can be made without pain. Cutter and others used the electric current external to the uterine cavity, whereas Apostoli makes the application always intra-uterine.

The object of the electrolytic treatment is first the relief of the urgent symptoms, and, secondly, the diminution of the size of the tumor. This is accomplished by repeated galvano-cauterisations of the mucous membrane of the uterine cavity and by

the inter-polar effect of the strong galvanic current. The current is concentrated at one pole by means of the uncovered uterine electrode and is dispersed at the other pole by means of a large abdominal electrode.

Apostoli uses very strong currents—from 100 to 500 milliamperes—while Dr. Martin, of Chicago, who has had large experience in uterine electrolysis, uses comparatively weak currents—50 to 100 milliamperes. When there is hemorrhage or leucorrhœa the uterine electrode is connected with the positive pole of the battery, in other cases it is connected with the negative pole. The positive pole controls excessive secretion, while the negative pole produces more decided electrolytic and *dénutritif* effects. A bare sound or electrode is used for making the application to and concentrating it upon the endometrium, while a very large and specially constructed electrode is used for dispersing the current upon the abdominal walls.

This treatment has been found most efficacious in cases of uterine fibroids and uterine hypertrophies, but it is also used in cases of pelvic hyperplasias as well as for the relief of neuralgia of the ovaries.

In the present article I propose to treat the subject from an electrical standpoint only.

The apparatus required is as follows:—1. A good battery. 2. A milliamperè-meter. 3. A rheostat. 4. Artificial resistance coil. 5. A large abdominal electrode. 6. Specially constructed intra-uterine electrodes.

The Battery.—The choice of a battery will be determined not alone by efficiency but by convenience as well. When the battery is exclusively for office use the choice is between a portable battery with small cells or a stationary or a cabinet battery with large cells, whereas when the battery is both for office and for outside practice the portable battery only can be used. Previous to the introduction of the telephone transmitter battery, stationary batteries were made up of cells similar to those used for telegraph purposes, as the "Daniel," "Calland," "Crow-foot," &c., all modifications of the "gravity battery." These battery-cells are now discarded as they are more troublesome than the telephone battery cells, and moreover the internal resistance is very high, which reduces the strength of the current. The internal resistance of the ordinary telegraph battery-cell is not less than about 4 ohms, and as the electromotive force is only one