## THE APOSTOLI-TREATMENT OF UTERINE FIBROIDS AND HYPERTROPHIES.

BY A. M. ROSEBRUGH, M.D.,

Surgeon to the Toronto Eye and Ear Dispensary.

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DR. MARTIN'S MODIFICATIONS.

The modifications of the Apostoli treatment, as introduced and practised by Dr. F. H. Martin, of Chicago, are as follows :-----

1. He uses an animal membrane electrode.

2. He uses specially constructed intra-uterine electrodes.

3. He uses intra-uterine electrodes instead of galvano-puncture.

4. He has introduced a definite system of electric dosage.

The animal membrane electrode has already been described. The intra-uterine electrode is described by Dr. Martin (N. Y. Medical Record, 17 Dec., 1887,) as follows :----

"The metal that constitutes the active surface of these electrodes is platinum wire in spiral, (Fig. 5,b) wound over soft copper wire of the required diameter. This portion of the electrode is connected with the handle of the electrode, where it receives its attachment to the battery by means of an extension of the flexible copper wire or core incased in a soft rubber insulator. This insulated portion with its insulator is of the same diameter as the placinum part of the sound, and is therefore small enough to enter the uterine canal. Upon the distal end of the platinum portion is a screw-attachment, upon which a small, hard rubber tip, about two millimètres in length, is attached. This tip is bulbous, and from its shape and material will follow the canal readily. One may at once see that these electrodes can be made of any required diameter to suit the exigencies of the particular case in hand, this depending, of course, upon the size and permeability of the uterine canal. I have confined myself thus far in my work to two diameters. They are of 3 and 5 millimètres, and are called respectively No. 3 and No. 5. Other sizes can be ordered of the instrumentmakers on the same basis of nomenclature-the diameter required stated in millimètres. Of

each of these two diameters, as I have stated, I had constructed two electrodes-one of 4 sq. ctm. metal surface, the other of 2 sq. ctm. Of course, the length these metal surface. active surfaces occupy on the different electrodes depends upon the diameter of the particular electrode. If it is 3 millimètres in diameter the 4 sq. ctm. will occupy about 45 mm. in length of the instrument; if it is 5 mm. diameter the same surface, 4 sq. ctm. will occupy but about 26 mm, in length of the instrument. In ordering, then, an electrode from the instrumentmaker, the diameter of the instrument and the strength of current to be used with it should be stated. Thus if an electrode is required of 3 millimètres in diameter, and the current to be used with it is 100 milliampères, simply order a  $_{100}$  electrode; if a 100 milliampère current is too high, order a 30, which will indicate an electrode 3 mm. in diameter with a surface which will require, to check hemorrhage, a 50-milliampère current."



In a private note written in November last. Dr. Martin says :--- "I exhibited my electrodes at the Congress at Washington, and Apostoli took a set home with him, determined to try them." He also says, "unless you have a very peculiar case indeed. I do not think it best to use intra-vaginal puncture. In my experience of a large number of cases, I have never been driven to that alternative but once, and my success' has been very gratifying indeed. If it is possible to reach the interior of the uterus with an electrode it is better under all circum stances to do so, and the treatment is just as effective if the proper current is used." Exact Dosage in Uterine Electrolysis.-Dr.