ELECTROSURGERY IN GYNÆCOLOGY

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Men who fill our professional ranks, whether in medicine, religion, or law, are habitually conservative. This salutary mental attitude expresses itself peculiarly in our communal relations; namely, when a new idea appears which is more or less subversive to old notions and practices, he who originates the idea must strike sledge-hammer blows in order to secure even a momentary attention. This must then be followed by a long, patient propaganda of proclamation and advertising until in the grand finale the public, indifferent at first, is aroused, proceeds to discuss, and finally accepts the iconoclastic proposal as a long-accepted fact of its own invention and asks wonderingly, "Why such a pother? What after all is there new about the thing? We knew it all long ago!"

Such is the history of the therapeutics of radium about which the public is just opening and rubbing its eyes after a quarter of a century of sleep. And so, too, has it gone with the electrosurgery marvelously wrought out by William Clark, of Philadelphia, in 1908-1910, and promulgated with all the documentary evidences and data necessary to establish its rights of eminent domain over a new and large arena in the surgical realm.

In this latter field, however, we are still in the proclamation stage when success waits upon iteration and reiteration—both beneficent procedures, for which no apology is necessary—while we continue to hammer at the general surgeons' doors and shout aloud our incontestable attainments, as we beg for a meed of generous recognition in all our large hospitals.

Here we supplant our ancient procedures in the operating amphitheatre with electric current oscillations of a million or more a second and regulable from a minute needle-point spark up to a flashing, withering, sword-like flame, made superficial or penetrating at will. With George A. Wyeth's knife (acusector) we cut tissues as a hot knife goes through butter, or we dry the structures to a powder, or, again, we boil or coagulate without carbonizing, the current exerting its potency at or close around a needle point or a small ball, the active agent held in the operator's hand remaining a cold field.

Unlike radium, which is a ray therapy, electrosurgery is thoroughly surgical and at once a vigorous, insistent competitor with those age-long badges of our profession—scalpel, ligature, needle and suture, supplanting these time-honored instruments in their own arena and in appropriate cases relegating them to the *Rumpelkammer* as mediæval, crude, antiquated. Although the field of this new electrosurgery is a broad one, its preferential work lies conspicuously in the destruction of cancer where in numerous instances it reaches

a perfection of *ne plus ultra*. I adhere as my theme in this brief memorandum to one of its more limited fields where it does not appear altogether at its best advantage. I speak of cancer in the female generative tract. One who wishes to judge it for the first time should observe a skilled operator in the surgery of the mouth or of the brain.

In gynæcology, electrosurgery is preferable in:

1.—Cancer of the external genitals: vulva, clitoris, Bartholin's glands and the external urethral orifice.

2.—The destruction of metastatic or suspected inguinal glands.

3.—Cancer of the vagina in its primary form and the destruction of metastatic nodules in the vaginal wall.

4.—Cancer of the cervix, cooking and destroying the tissues until the cervix can be reamed out in a hollow cone for the better lodgment of an effective radium treatment.

5.—Lower abdominal surgery, cooking superficial cancerous nodules remaining after the enucleation of the large parent mass, whether uterus or ovaries.

6.—A scirrhus nodule in the wall of the intestine, which can be necrotized even through the entire thickness of the wall and then left *in situ* after drawing the peritoneum over the area with fine silk sutures.

7.—Papillomatous tufts on the peritoneum, which can be withered down to the base and out of existence by an exposure of a fraction of a second duration, requiring no ligatures or sutures. In this way many can be wiped out in a minute, a precious saving of time.

8.—Areas of carcinoma left on or in the pelvic wall after an extirpation.

9.—Enlarged glands on the pelvic floor, which are punctured and coagulated thoroughly and left *in situ*, as well as any gland at a bifurcation of a large vessel, saving a prolonged, difficult operation at a critical period after a panhysterectomy.

10.—Papilloma of the bladder, forming a brilliant and speedy way of attack either by cooking its pedicle if it is pendulous, or by coagulating the flat, raspberry masses, stopping hæmorrhage and extirpating the tumor or reducing the mass for radiation.

The value of electrosurgery in all these situations lies in the perfect control of the current which can be applied as effectively at any reachable distant point by a stiff wire as on the surface of the body; that is to say, at the vaginal vault, deep in the pelvis, in the bladder through the aëroscope, up in the rectum at the pelvic brim in the knee-chest posture, or down in the larynx or in the fauces, and even in the trachea and bronchi.

The advantage over scalpel and suture is perhaps more apparent in that the tissue cooked and sterilized *in situ* is often not removed but advantageously left to be thrown off spontaneously in a few days. In treating large glands, it may be well at times to puncture and coagulate thoroughly and then to incise and curette away all the friable tissues, to be followed by a thorough cauterization of the capsule from within. A metastatic gland

lodged in the bifurcation of a large vessel is admirably managed in this way by an experienced operator.

The value of electrosurgery in vulvar cancer is at once apparent in carcinoma of the entire vulva, always an awkward knife, forceps, and ligature operation. Here the cutting current reduces the bleeding of the incision to a negligible minimum. Then follows a careful dissection, undermining while raising the mass. Any larger vessel seen as it is approached through the fat is caught with delicate forceps slightly curved at the tip and divided; finally, the few vessels so controlled are sealed by touching each forceps with the coagulating current when they wither and are sealed (Grant Ward). So *pari passu* the new operation advances to its finale in far less time than with a scalpel dissection. Great care should be taken not to contaminate the wound during such a knife-and-fork operation. The flashing current can be used advantageously to sterilize any ulcerated areas on the surface.

It must not be reckoned a small matter here that there is a great saving of ligatures as well as of time in operating, not to pass unnoted the few and simple instruments sterilized. Nor, again, should we overlook the fact that the post-operative discomforts are greatly lessened, while these cases are either ambulant at once or in a very short time, substantially increasing the turnover of the hospital. There is also, I think, a wise inclination on the part of experienced electrosurgeons to leave many of these sterile wounds open and to treat them with a 2 to 3 per cent. mercurochrome solution daily, protecting them under simple dressings from exposure and contamination. Granulations spring up with surprising rapidity, and a soft flexible scar is the outcome—a matter of extreme importance in many familiar situations, mentioning the periphery of the eye as an example. The field of local anæsthesias is extended to the satisfaction of many patients.

While we sing the praise of this new electrosurgical field, he will do best by his patient who also thoroughly knows our older methods and above all is cognizant with the phenomenal results of radiotherapy, including X-ray though less potent and dependable.

As a rule, most of our carcinoma cases need efficient radiation either to inaugurate or to complete the cure, whatever other adjuvant methods we may adopt. Electrosurgery is often a preliminary to facilitate radiation, serving an excellent purpose in removing and sterilizing a massive disease down to its base to insure a more direct, efficient application of the succeeding therapy. On the other hand it is sometimes well to apply radium first, for its effects act in the more distant peripheral zone, to be followed in a few days by the more localized radical electrosurgery. It is indeed a happy concomitance that both of these agencies are not mutually exclusive but coöperative as they work together to promote the desired result. By and large, be it said, it is rare that a new method coming in wholly displaces the old, but rather does it supplement and increase its effectiveness and enlarge its territory.