

it important to introduce the positive needle first, and the negative afterwards, inasmuch as the former becomes so firmly glued to the tissues after the current has commenced to act, that it is very difficult to push it forwards.

Groh considers the following to be the *advantages* of electrolysis. Very extensive tumours may by its aid be destroyed without the loss of a drop of blood; which is of great importance in cases where there is great prostration of strength. In three of his patients, the use of electrolysis enabled him to do without resection of the lower jaw, which otherwise would have been necessary, and would have given rise to great disfigurement. In a case of cancer of the rectum, where subcutaneous injection of morphia produced only slight and temporary relief of the intense pain, and where there was a most offensive smell from the ulceration, both smell and pain disappeared after the first electrolytic application. In a case of epithelioma of the lip, where the right submaxillary gland was considerably swollen, this swelling was dispersed a few days after one electrolysis. Finally all cases progressed favourably, without any bad accidents. The pain never continued beyond the application itself; there was only slight local and general reaction; the eschars which had been formed were rapidly thrown off, there was copious granulation, and such an amount of cicatricial contraction as to cover the loss of substance caused by the removal of the growth.

The *drawbacks* of electrolysis are the following. The batteries are expensive; it is not always easy to introduce the needles so as to destroy as much as possible in the shortest time; where extensive tumours are to be destroyed the applications must be frequently repeated or prolonged for a considerable time. Groh thinks that surgeons will gradually find special indications for electrolysis as for any other operative procedure. Where the knife is the more simple instrument, and equally devoid of danger, they will not think of resorting to electrolysis, but will only use the latter where it either appears to offer special advantages, or where no other means can be employed.

The author has described all the cases which he has thus treated, and brought them into two classes, viz., first, where a powerful current is used for a short time; and, secondly, where a gentle current was used for a prolonged period.

1. Ten cases of naevus; all cured. Groh thinks electrolysis, from the absence of danger, and the avoidance of bleeding and disfigurement, preferable to any other operation hitherto devised for naevus. Two cases of lupus; four cases of sarcoma, cured; eighteen cases of cancer, chiefly epitheliomata of the lip, thirteen cured, two improved, in two no result, one death. In these cases it is necessary to destroy not only the growth itself but also its next neighbourhood, in order to avoid subsequent infection. In some of these cases, only one, in others two or more applications were necessary. In one case there was not only ulceration of the lower lip, but also of the whole chin; the corresponding part of the lower jaw was covered with detritus: some teeth

had fallen out, and those remaining were so loose that they could be extracted by the finger. Both submaxillary glands were engorged. Four applications were sufficient to produce destruction of the tumour, which was followed by good cicatrization.

2. Prolonged electrolysis with a feeble but perfectly constant current, such as is produced by Daniell's battery, does not necessitate the administration of chloroform, and causes hardly any pain at all. A tumour of any size may be destroyed by this proceeding. The author relates three cases; one of myxosarcoma of the left leg, of the size of a child's head, in which the current was made to act from Jan. 27 to Feb. 13; suppuration supervened, and the patient was discharged cured on April 15; another case of osteosarcoma of the right thigh, larger than a child's head, which also yielded, although not so rapidly, as several relapses took place; and a secondary cancerous tumour of the mamma, which was quickly removed.

GYNÆCOLOGY.

PELVIC CELLULITIS.

Dr. Bartholow reports the following case: A lady six months after marriage, the menstrual flow having been absent for six weeks, was taken with violent hæmorrhage, for which vaginal injections of ice-water were advised by her attending physician. Almost immediately after taking the injection she was seized with violent pelvic pain, which was soon followed by symptoms of peritonitis. She became very ill, and continued so for two months. Suppuration was supposed to have followed the pelvic peritonitis or cellulitis, for she discharged, per rectum, an ounce or two of purulent matter with marked relief to the symptoms. A cure, however, did not follow. She had frequent attacks of pain, with some febrile movement, followed by a discharge of a more or less purulent matter. She continued in this state for several years, never in good health, but not confined to the house. When she came under my observation, in September last, she was passing several times daily, about a tablespoonful of purulent matter. She was emaciated, feeble, and had a countenance strongly indicative of suppuration. I ascertained the existence of a tumor of considerable volume in the left iliac region. It could be felt distinctly over the pelvic brim, and projected downward almost to the floor of the pelvis. It was distinctly fluctuating. I regarded the case as one of chronic pelvic abscess which had never been thoroughly emptied. The frequent recurrence of pain and soreness, followed by discharge, indicated reaccumulation of the pus. It seemed to me that the opening into the rectum was not in a situation to effect complete evacuation of the pus; therefore I proposed to puncture the abscess through the vaginal roof, so as to permit drainage from the most dependent part of the sac. This was assented to, and with the aspirator I drew off about a half pint of fetid pus; thus confirming my diagnosis. Hoping that simple evacuation of the sac would be sufficient, I withdrew the canula. Unfortunately a

violent attack of septicæmia followed, and I almost despaired of the life of my patient. The sac filled again. At the expiration of three months I again tapped the abscess with a long curved trocar, and permitted the canula to remain in, fastened by a tape passed through the eyelet and attached to a band passing around the waist. A rubber tubing provided with a stop-cock was attached to the canula, and I was thus enabled to wash out the sac and inject medicated fluids, by means of the pump of the aspirator. This arrangement worked very happily for a time. I washed out the sac daily, and injected solutions of iodine. These solutions were increased in strength until at last I was able to inject the officinal tincture of iodine. Collapse of the sac followed, and matter after a time ceased to be produced. Whilst I was debating as to the propriety of removing the canula, it one day slipped out and I was unable to reintroduce it. Subsequently I made an attempt to introduce a self-retaining canula, but the sac had so diminished in size that I found it impracticable. Since the abscess has been evacuated, my patient has gained in weight, has a good appetite, and appears, indeed, to be recovering permanently.

This case taught me the danger of interference with such an abscess without making provision for permanent drainage. Violent septicæmia followed the first tapping of the sac, but when, after the second operation, a canula was retained, no constitutional disturbance occurred. The safety and advantages with which drainage tubes may be inserted and retained in cavities have been repeatedly exhibited in empyema and hydrothorax. The utility of washing out retained fluids, and of injecting medicated solutions, has also been abundantly demonstrated in the same cases.—*Cincinnati Academy of Medicine, (The Clinic).*

MATERIA MEDICA.

ON THE ACTION OF CALOMEL.

In a paper read before the Royal Medico-Physical Academy of Florence, and published in *Lo Sperimentale* for June, Dr. R. Bellina, professor of experimental toxicology in the Royal Institution of Florence, examines elaborately the change which calomel may undergo when taken into the mouth, or applied externally or hypodermically. He sums up his results in the following conclusions.

1. Calomel ingested during fasting is converted, in very small proportion in the stomach, in a much larger proportion in the small intestines, into a soluble compound of mercury.

2. This change is produced in the stomach by the alkaline chlorides and lactic acid; in the small intestine by the alkaline carbonates of the enteric juices.

3. In suckling women, in whom the large intestine does not lodge sulphydric gas, a soluble mercurial compound is formed in the lowest tracts by the action of the lactic acid and chloride of ammonium, which are there present; but in non-suckling women, where this gas is present, sulphide of mercury is formed.