

the results have, in some instances, been more satisfactory than under any other method of using electricity in these affections." Their method of applying the galvanism is to place the negative pole to the epigastrium and the positive to the back, moving it by turns along the whole extent of the cerebro-spinal axis, thus, as they, "bring the whole central nervous system under the influence of the current."

With regard to eczema they say: "At first we used localised galvanisation in eczema, with sponges, cloths, and the metallic brush, and obtained thereby great relief of the itching, and, in time, cure." Latterly, however, they have discarded the local applications, and have confined themselves almost entirely to centric galvanisation. The first case is that of an Irish servant, aged fifty-one, suffering from chronic eczema of the leg of eight years' duration, which had resisted all the ordinary remedies. Central galvanisation was first employed on April 23rd, with the immediate result of giving much relief, and on June 15th she was discharged cured. Five other cases of chronic eczema are reported, all of which were improved by the treatment, having previously resisted the more ordinary therapeutic measures. It is notable that the application was in every case followed by the immediate alleviation of the itching and burning pains which prove so tormenting in these cases. A case of acne rosacea treated by localised galvanisation is recorded, and two cases of chronic acne are mentioned which were cured, the one by local, and the other by central, galvanisation. This method of treatment has been remarkably successful in prurigo, the itching being almost instantaneously relieved. Psoriasis and pityriasis have not yielded readily to this treatment, but the pains accompanying herpes zoster have been in all cases greatly relieved. The last case recorded is one of elephantiasis of the legs, which was rapidly improved by local galvanisation, the first sign of improvement being, as usual, the disappearance of all pain.

♩ OPIUM AND THE ACTUAL CAUTERY IN THE TREATMENT OF CHOLERA.

By C. E. BROWN-SEQUARD, M.D.

I have had considerable experience in the treatment of epidemic or Asiatic cholera. In 1849, in Paris, the number of army physicians being insufficient, some civilians, among whom I was, were called to take charge of the soldiers attacked with cholera, at the *Gros-Caillois* Hospital. In the Mauritius, at Port Louis, in 1854, I had charge of a hospital—besides a very large private practice—during one of the most murderous epidemics of cholera that have existed outside of India. Nearly 6,000 people out of a population of about 45,000, died in five weeks. Of all the means of treatment I have employed (and my trials have been very numerous) none has given by far as favorable results as the use of opium in extremely large doses. I will only mention what occurred at a convent, which seems to have been one of the great foci of the disease in the Port Louis epidemic. No death was observed there, although a large number of Sisters of Charity and

of young girls (the convent was a boarding-school) were attacked with either the premonitory symptoms or the confirmed and cyanotic cholera. Thirteen of those patients were seized with the most serious symptoms, and all, however, recovered, many of them, if not all, evidently owing to the treatment. For reasons mentioned hereafter, a great many of my hospital and private patients died, notwithstanding my having used opium in their case as I did at the convent. But here was the difference, and in this lies the important point as regards the use of opium against cholera. In the convent the rules given were strictly followed; they were not elsewhere.

They were, first, to give opium every twenty minutes and in large doses so long as the cholera symptoms existed, without fearing poisoning; secondly, to begin the treatment as early as possible. The Sisters of Charity acted just as I desired, and saved, as I have said, all their patients. The fear of poisoning, and many other reasons, prevented the proper application of the rules elsewhere. The preparation almost always employed was laudanum. If there was no great vomiting, or if the vomiting was checked by Rivière's potion (a carbonate and tartaric acid, taken separately one immediately after the other, disengaging carbonic acid inside of the stomach), the laudanum was given by the mouth. If the vomiting was frequent, the laudanum was injected into the bowels, but with the precaution of having a thorough washing of the large intestine by a previous enema to bring out all the contents of that tube, so that the laudanum was rarely rejected. In bad cases a dose of twenty minims of strong laudanum (Sydenham's) was used every fifteen or twenty minutes until the cholera symptoms had ceased, or (which never occurred when cholera still showed its existence) until some slight symptoms of opium-poisoning appeared.

I hardly need to say that this mode of treatment does not succeed when the blood has been considerably altered by the loss of a very large amount of its salts.

Of course these rules are not to be followed in cases of mere cholera or in the premonitory stages of cholera; but even then opium in much smaller doses are also the best means.

Now that we possess a much better means of obtaining rapid absorption of the principal curative element of opium—morphine—in subcutaneous injections it is clear that it is a substance which ought to be used and in that way. I may add that many physicians have already proposed and used subcutaneous injections of morphine against cholera.

Against the lack of urinary secretion in cholera I have employed with benefit, in some cases, the actual cautery on the loins.

SURGERY.

LECTURE ON THE PREVENTION OF LOSS OF BLOOD DURING OPERATIONS.

By Professor F. ESMARCH, of Kiel.

Gentlemen,—You were all witnesses yesterday of a difficult and tedious operation, in which the

patient lost a great deal of blood in spite of all the precautions that were employed.

The case was one of extirpation of a tumour as large as a child's head, a very vascular medullary fungus, occupying the whole upper part of the neck on the right side. It was found that the growth involved not only a portion of the parotid gland, but also the adjacent muscles—the sternomastoid, the mylohyoid, and the posterior belly of the digastric—to such an extent, that I was obliged to remove considerable portions of all these; and, at the end of the operation, the internal jugular vein and the carotid artery lay exposed to a great extent in the wound.

It was the extraordinary amount of bleeding that, above everything else, rendered the operation difficult. You remember how, although I took the precaution of making very small incisions, each cut was followed by the spouting of one or more arteries, or by the outpouring of dark blood from veins over the field of operation. You saw how I endeavoured to reduce the loss of blood as much as possible by applying artery-forceps to the bleeding vessels after each incision, and leaving them hanging while I proceeded with the operation. More than once twenty-four of the little forceps, which I always have at hand in performing great operations, were hanging together, and I was obliged to apply a ligature to the bundle of vessels before I could go deeper. When the operation was completed, I had applied altogether more than fifty ligatures; of these fifteen were in the tumour itself, so that only thirty-five remained in the wound.

How great a quantity of blood was poured out, I do not attempt to determine; for it was constantly sucked up by sponges, and diluted in the water in which they were washed. But that the patient had been deprived of a large quantity of blood could be inferred from the waxy pallor of his countenance, his small weak pulse, and his laboured breathing.

Most of you will no doubt have said to yourselves, that you would not wish to commence your career of operations with such an extirpation. And in fact it is just the blood—the *dæmonische Blut*, as Dieffenbach calls it—that not unrequently deters the young surgeon from undertaking important operations, especially when sufficient and reliable assistance is wanting. And yet the first qualification for a good operator, is to learn to undertake in calm cold blood the struggle against hæmorrhage. It is scarcely necessary for me to explain to you, of how great consequence hæmorrhage is in nearly all operations. In many cases, the limits within which we are obliged to confine our operative proceedings are determined by the amount of loss of blood that may be expected. We desist from attempting to undertake many operations, to which in other respects there are no contraindications, because the operation must last so long that in all probability the patient will bleed to death before it is completed, or because we consider him already too weak and exhausted to be able to endure the unavoidable loss of blood.

To-day I am about to perform an operation, in which the loss of blood would be even more con-