

if not, there was great danger of a putrefactive process being set up, and blood poisoning produced, and this was the result in several cases in which it was used in this country. In large cities there is almost an impossibility of getting the organs in question, immediately on their being removed from the animal.

Secondly, it was extremely difficult to filter the thick juice, even when diluted according to Brown-Sequard's directions. Filtering paper would not do, for the morphological constituents passed through, and an abscess was very liable to be produced at the point of injection. A porous stone filter absorbed the juice, and none of it came through, as there never was a sufficient quantity to saturate the stone and to pass through it. A large amount could not properly be made at one time, as it would not keep, so that it was necessary at every seance to prepare a fresh quantity.

After a time, therefore, during which I did my best with the fresh juice—using for this purpose the testicles of the ram, and creating several abscesses with febrile disturbance—I gave up this method, and turned my attention to preparing extracts, not only of the testicles, but of other organs of the body. It would be to some extent instructive to go over my failures, but I have not time for that. I can only, on this occasion, tell you of my success, and the conclusions I have arrived at in regard to the subject. And I shall mainly confine my remarks at present to the consideration of one extract, that of the brain, which, for convenience, I designate "cerebrine." I will merely say that I have prepared extracts also of the spinal cord, "medulline"; the testicles, "testine"; the ovaries, "ovarine"; the pancreas, "pancreatine"; the stomach, "gastrine"; and the heart, "cardine"; and that I am nearly ready to give to the profession the results of my observations with these substances. Of course, the kidneys and the liver being excretory organs, cannot properly be used for the purpose of making extracts to be introduced into the blood. Were we to use them in this manner, we should be putting back into the system poisons which it had eliminated, and hence would produce disaster, and, perhaps, even death.

The process of preparation of the extract of these several organs, while individually somewhat

different, does not materially vary from that used for the brain, which is as follows:

The whole brain of the ox, after being thoroughly washed in water acidulated with boric acid, is cut into small pieces in a mincing machine. To one thousand grammes of this substance placed in a wide-mouthed, glass-stoppered bottle, I add three thousand cubic centimetres of a mixture consisting of one thousand cubic centimetres each, of a saturated solution of boric acid in distilled water, pure glycerine, and absolute alcohol. This is allowed to stand in a cool place for, at least, six months, being well shaken or stirred two or three times a day. At the end of this time it is thrown upon a porous stone filter, through which it percolates very slowly, requiring about two weeks for entirely passing through. The residue remaining upon the filter is then enclosed in several layers of aseptic gauze, and subjected to a pressure of over a thousand pounds, the exudate being allowed to fall upon the filter, and mixed with a sufficient quantity of the filtrate to cover it. When it has entirely filtered, it is thoroughly mixed with the first filtrate, and the process is complete.

During the whole of this manipulation, the most rigid antiseptic precautions are taken. The vessels and instruments required are kept in boiling water for several minutes, and are then washed with a saturated solution of boric acid. Bacteria do not form in this mixture under any circumstances, but it is necessary to examine it from time to time microscopically, in order to see that no foreign bodies have accidentally entered. Occasionally, owing to causes which I have not determined, though I think it is due to variations in temperature, the liquid becomes slightly opalescent from the formation of a flocculent precipitate. It sometimes takes place in a portion of the extract kept under apparently identical conditions with other portions that remain perfectly clear. It can be entirely removed by filtration through Swedish filtering paper, previously sterilized, without the filtrate losing anything of its physiological or therapeutic power.

Five minims of this extract, diluted at the time of injection with a similar quantity of distilled water, constitute a hypodermic dose.

The most notable effects on the human system