

perience has been that they are all very untrustworthy, and I hesitate to give the preference to any one. Acetate of lead, ergot, hamamelis, gallic acid and perchloride of iron should have a fair trial. In hemoglobinuria a ten-grain dose of quinine should be given at the commencement of the attack, and five grains three times a day, till convalescence is established. Chloride of ammonium, recommended by the late Dr. Warburton Begbie, has never been followed in the hands of others by the fortunate results he obtained.—*British Medical Journal*.

REVIEW OF THE RECENT PROGRESS OF ELECTRICITY.

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The object in writing this paper is to give a concise outline of the present state of knowledge of electro-therapeutics, and to serve as an article for reference on the subject.

The main facts concerning the application of electricity to the cure of disease have been collected from reliable sources, and are arranged in alphabetical order without any unnecessary explanations.

Particular pains have been taken to state the strength of the current in milli-amperes whenever possible, as accurate current measurement is absolutely necessary to the scientific use of electricity. Many writers speak of using twenty-five and thirty cell currents about the brain, which would be impossible if such battery were generating the current it should. But few patients can tolerate a current of more than two to five milli-amperes about the head. This fact alone would make it desirable that a definite strength be established for each condition—thus making the dosage of electricity uniform.

The strength of a current may be roughly estimated without a milliamperemeter by placing the needles in some white of egg. Robin states that a current of 45 milliamperes causes coagulation of the albumen in twenty to thirty minutes. This is a practical test that can be made under any and all circumstances.

Acne.—An inflammatory, usually chronic, disease of the sebaceous glands, characterized by papules, tubercles or pustules, or a combination of these lesions, occurring for the most part about the face (Duhring).

Bartholow (*Med. Elec.*, p. 228) has obtained good results from the use of galvanism in this and many other affections of the skin. He stimulates the entire surface of the face, paying little attention to the direction of the current. A current of 2 to 3 *milli-amperes* is found most suitable. After the immediate effects, which are irritating, have passed off, the skin becomes pale and the eruption less prominent. One

electrode may be passed over the face while the other remains on the nape of the neck. Fox uses a small metal button applied to the red blotches, which remain after evacuation of the contents of a nodule. In *acne rosacea*, when dilated blood-vessels are present, treatment with the electrolytic needle has given good results (Duhring and Stelwagen, *Am. Sys. Med.*, page 649). The positive electrode is held in the hand, and a fine needle attached to the negative is applied to the small vessels. Two to six *milli-amperes* may be employed, being governed by the amount of pain and destruction caused.

Amaurosis, amblyopia, anemia of the optic disc, and other diseases arising from anesthesia of the retina, have yielded excellent results under the use of electricity. Anemia should be treated by galvanism and hyperemia by faradism. Applications should be made directly to the eyes—the anode resting on the closed lids and the cathode on the malar bone or temple (Bartholow). A current of two milli-amperes will usually be found of sufficient strength. It may, however, be increased until faint flashes of light are seen, but should not be continued for more than two or three minutes. When faradism is employed the current should be rapidly interrupted and no stronger than is comfortable.

Amenorrhœa.—May be either an interruption or habitual non-appearance of the menstrual discharge. May occur with plethora, from disturbance of ovarian or uterine function, or with anemia and debility. The greater number of cases are met with in anemic females.—(*Hartshorn's Prac. of Med.*) Galvanism, faradism and franklinism are employed. Electricity is especially valuable in young women, where the menstrual function is not fully established, on account of a torpid state of the vaso-motor nerves of the ovaries and uterus, and also where the catamenia have been suppressed after labor, or in consequence of a sudden chill or emotion.—(*Golding Bird, Quarterly Epitome.*)

Anesthesia.—May arise from various causes—lesions of the brain and spinal cord, division of a nerve supplying a certain part, the results of exhausting diseases, etc. The sense of touch may remain, and the sense of pain be lost, or vice versa. When sensory functions are diminished we have anesthesia increased, hyperesthesia. In most cases removal of cause is the principal element in the cure. The faradic current is most suitable. Dry the skin, and dust with some drying powder, and apply the current by means of the wire brush or metal electrode for about ten minutes daily. The stable electrode, well moistened, should be applied at some indifferent point. A strong ascending galvanic current, 15 to 25 milli-amperes, may do good where there is languid circulation.

Angioma.—Dr. Alvarez speaks favorably of electricity in the treatment of angioma. The positive electrode is plunged into the tumor,