

ELECTRICITY IN A CASE OF FÆCAL IMPACTION.

With Notes on Solvents for Fæces.

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IN a case of constipation with periodic impaction that about eighteen months ago came under Dr. Weir Mitchell's care, such gratifying results were obtained that the following account of it may be of use to the profession :

The subject, a lady, about fifty years of age, for nearly fifteen years had been greatly annoyed by impactions of fæces. No very alarming symptoms had ever been brought on, and it was found that the hardened lumps would come away if the patient remained in bed several days. Many of these lumps showed evidences of having been weeks, and even months, in the intestine.

There seemed to be a particular place where these masses became lodged, side-tracked, as it were, for upon their final passage they could be readily distinguished from the accompanying excretion, the latter being comparatively soft.

A physician who had been previously consulted at one time introduced his hand and a portion of his forearm into the bowel, but did not discover any stricture. Dr. Mitchell considered the difficulty to be due to atony of the muscular coat of the intestine, and advised the use of electricity locally applied, and massage of the abdomen and of the body generally. In addition, the patient was to take a laxative pill and a tablespoonful of glycerin internally three times a day.

I had a special form of electrode made, consisting of a polished steel bougie two inches long and five-eighths of an inch in diameter, with blunt convex extremities. This was screwed to a flexible copper rod which was plated and insulated, and provided with a screw for attachment to a handle. This made an instrument sixteen or seventeen inches long.

About eighty applications of the faradic current were made, in which the instrument was usually introduced sixteen inches. As a rule, no great difficulty attended its passage, although it was not easy to pass the flexure of the rectum, especially if the fæces had collected, and it was generally possible to tell when the bulb passed by these lumps, which were lodged usually eight or nine inches from the anus.

Not the slightest injury was done to the intestine by the passage of the instrument. Sometimes flatus was forced backward along the bowel, causing momentary distress like colic, but otherwise no pain was experienced. A broad electrode, six by five inches, was applied at different places over the abdomen, and a moderately strong faradic current used for about half an hour daily. The internal electrode was withdrawn gradually, so as to influence directly the entire calibre of the bowel within its reach.

Injections of glycerin were tried without giving a satisfactory result; only mucus came away. Laxatives were abandoned later in the treatment of the case, and strychnine internally and hypodermically was resorted to, together with belladonna. Both Dr. Mitchell and the patient, however, were confident that the greatest improvement was made by the electricity, and at the end of treatment she found herself able to go about with freedom, without the least inconvenience from impactions; and is now in a better state of general health than for many years.

At Dr. Mitchell's suggestion, I made some experiments with the scybala passed from the bowel that I think are worth recording. Some of the smaller lumps of fæces about $\frac{3}{4}$ inch by $\frac{1}{2}$ inch, selected as nearly alike as possible and in a state as when passed from the bowel, were put into several different fluids, to test the readiness with which they might soften, viz. :

I. Pure water. At the end of one week showed softening of the fæcal mass and discoloration of the water, the lump being at the bottom of the glass.

III. Aromatic sulphuric acid ʒj, water ʒvij. In one week considerable softening, great discoloration; lump sank; offensive. In two weeks great discoloration and softening.

IV. Cod-liver oil. In three weeks little, if any, change. In ten months no change beyond slight hardening of the mass and diffusion of the coloring matter.

The following experiments were made with a large

egg-shaped mass, which was squared so that its surfaces were perfectly fresh. It was then cut into sections each about $\frac{3}{4}$ inch by $\frac{1}{2}$ inch by $\frac{1}{2}$ inch.

*V. Pure water. On the first day the mass was at the bottom of the glass, and some tendency to discoloration and softening was noted. The softening was greater in one week. In two weeks it was crumbling, and fell to pieces on being disturbed.

VI. Lime water. In one day more softening and discoloration than in V. In one week it was quite soft, and in two weeks it crumbled, and on shaking was thoroughly disintegrated. This solution seemed to have the greatest softening action.

VII. Glycerin. In two weeks the lump seemed hardened. The color was diffused through the glycerin.

VIII. Tartaric acid, gr. v; water, $\bar{3}j$. In the first day discoloration of the solution was noted. In two weeks the lump was still intact.

IX. Tartaric acid, gr. x; water, $\bar{3}j$. In one day this showed the most discoloration of any of the fluids. No softening in two weeks; its shape was intact, but it could be disintegrated by pressure.

X. Glauber's salt, gr. xx, to $f\bar{3}j$ of water. In one week the color was diffused and softening had commenced. After eighteen days the mass still retained its shape.

XI. Glauber's salt gr. xl to $f\bar{3}j$ of water. Result the same as in X.

XII. Rochelle salt gr. xx to $f\bar{3}j$ of water. In one week more softening than in X. and XI. In eighteen days well disintegrated.

XIII. Rochelle salt gr. xl to $f\bar{3}j$ of water. Still more softening than in XII., and thoroughly disintegrated in eighteen days.

XIV. Soap solution gr. xx to $f\bar{3}j$ of water. Not so much disintegration as in XII. and XIII.

XV. Soap solution gr. xx to $f\bar{3}ij$ of water. About the same result as in XIV.