

should be tepid. After cleansing, mild astringents applied in the same way, and continued regularly for several weeks, will sometimes so check inflammatory action and so constrict the parts, that the hypertrophy will gradually be absorbed.

Operative interference when necessary, may be accomplished in various ways. The means at our command consisting of caustic acids, cold and cautery snares, transfixing needles, saws, galvano-cautery knife, etc. Of these, the first and the last meet with the most general favor and the largest use.

Of the acids, the most highly recommended are the nitric, glacial-acetic, and chromic. Nitric being the most destructive, requires much care in its application. If applied in anything but small quantities it is liable to produce deep-seated ulceration. It is, however, very effectual in the destruction of hypertrophied tissue, and properly guarded, will do good work. To use it, a probe is wrapped with absorbent cotton and then dipped in the acid, any extra drops being removed by a blotter. Glacial-acetic acid has the reputation of being a safer agent, but being less powerful requires many applications to produce a good result. Seven or eight touches, at the interval of a week, will be required to produce as much effect as one of nitric acid. Both acids are applied in the same way.

Of all three, chromic acid is most popular, and is the only one that I have personally made use of. A convenient method is to heat the end of a probe or even stilette of a catheter in a spirit lamp and apply it to the crystals of the acid. Enough will adhere for one or two applications. Chromic acid gives very little pain; and three or four touches at intervals of several days, will often give very good results. As with the other acids named, a saturated solution of bicarbonate of soda can be applied, to neutralize any excess of acid. Before the use of any of them, it is better to wash out the nasal cavities with the alkaline spray. Cocaine can also be used, as in the more serious operations, to produce local anæsthesia.

The cold snare is more theoretical than practical, and rarely used, its place being taken by the galvano-cautery snare. The latter is serviceable in large posterior hypertrophies, when the growth is too extensive to be removed by the cautery knife; and of course necessitates the use of the rhinoscope. It is also used in large anterior hy-

pertrrophies. In these cases the transfixing needle is employed to elevate and steady the growth, during the manipulation of the cautery. The nasal saw and Woakes' plough are both of them occasionally used, when the hypertrophy extends beyond the corpora cavernosa to the turbinated bones themselves.

The galvano-cautery, however, has many advantages over all other methods, in the treatment of nasal hypertrophies. Not only does it produce comparatively little pain, and even this is within our control, but we can definitely limit both the depth and extent of its action. Another important feature of electro-cauterization is the exceedingly limited amount of local inflammation which it produces. Even after severe operations, patients rarely complain of discomfort, after the immediate effects are over.

It is a method of treatment, however, which requires the utmost care as well as considerable skill on the part of the operator. Although by means of the nasal speculum and the rhinoscope, he may see to place the electrode upon the hypertrophied tissue, yet the depth and extent of the burning in each case, must be largely controlled by the sense of touch. Too broad an application would destroy too extensive a surface of the ciliated epithelium; while too deep a burning would penetrate the corpora cavernosa, lay bare the turbinated bone itself, and produce a sloughing ulcer. It is as well to remember also, that the application of any of the escharotics to the nasal membrane, may in some cases give rise to erysipelas of the face. It is satisfactory to know, however, on the authority of Bosworth, that with the galvano-cautery the risk in this respect is comparatively slight.

Clarence Rice tells us that almost any effect can be produced by this instrument, the result being dependent altogether upon the manner in which it is used. Its potency can scarcely be over-estimated, varying from the gentle action of a simple astringent, all the way up to a destructive agent, accomplishing more than the wildest enthusiast could desire. Rice cites an instance where the hypertrophy had been removed, but dense bands of cicatricial tissue had taken its place. The nostrils were rendered too wide, the glandular action of the mucous membrane destroyed, and dry pharyngitis, with recurring neuralgia, was the lasting result of over zealous treatment.