XCII.

INTERCRICO-THYROID TRACHEOTOMY AND DE-CANULATION.*

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Several years ago (August, 1900), I addressed the Paris Academy of Medicine upon the difficulty of decanulating infants and children whose air passages had been opened in the intercrico-thyroid space and the canula left in place several weeks or months.

Since that time I have had occasion to observe numerous cases which corroborate the opinion I then expressed as to the causes of these laryngeal stenoses.

If we consider the very small space presented by the intercrico-thyroid region in the infant and child, we easily recognize that it is impossible to place a canula here without cutting the cricoid. Further, I have seen practitioners impelled by the grave asphyxia of their patients, open the thyroid as well as the intercrico-thyroid space, and consequently place the canula partly within the larynx.

In these cases the foreign body is situated immediately in the subglottic region, in the neighborhood of the vocal cords. As a result there is chronic swelling of the irritated part and an infiltration which of itself is almost sufficient to prevent the passage of air by way of the larynx. There is actually a chronic edema in a region which cannot dilate and this as a result produces considerable stenosis.

If we reflect further, that to instal the tracheal canula it is necessary to spread open the two plates of the cricoid, we readily understand the effect upon the crico-arytenoid articula-

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tions which would ensue upon opening such an important cartilage, and one which sustains the articulations active in breathing.

The almost complete immobilization of the arytenoids behind, by spreading the cricoid ring and the subglottic infiltration previously mentioned are two factors which combine to produce a laryngeal stenosis, temporary at first, then permanent, or in any event a very grave one, if children are not quickly decanulated before there is rigidity or ankylosis of the articulations which then no longer functionate, so to speak.

This also explains the so-called spasms of the larynx which attend some decanulations in patients having flexible cartilages, tracheotomized in the intercrico-thyroid region.

I have very often seen this phenomenon even in adults, in conditions above mentioned. It is the rule in children, so to speak.

The therapeutic conclusions from this way of looking at it are readily deduced.

If for any reason whatever an intercrico-thyroid tracheotomy has been done upon an infant or child, the canula must be removed as soon as possible to avoid the glottic and subglottic laryngeal stenosis which follows the prolonged stay of a foreign body.

In cases where laryngeal stenosis has already supervened, the patients are not to be treated at all by dilatation, for such intemperate maneuvers only irritate the inflamed region. They also have the grave inconvenience of producing cicatricial synechiæ which are now serious, for these permanently obstruct the larynx by creating an incurable tubular narrowing, thus condemning the patient to wear a canula always thereafter.

As Schmiegelow said several years ago, and as I myself advised about the same time, the first duty of the surgeon should be to place the canula in the trachea below the point where it had been, taking care to leave a ring of healthy tissue between the two incisions, to avoid the tube slipping up into its former situation.

This done and the respiration being assured, we wait patiently for time to do its work, for the infiltration to be slowly absorbed, and for the arytenoids to resume their function, if not normally at least sufficiently to assure the free entry of air into the upper passages.

At this period, after being sure of permeability of the larynx by direct examination, we may decanulate the child, but not without first habituating it for some weeks or months to natural breathing by closing the canula.

I will not multiply the observations which support this view. I will content myself with saying that every time I have seen infantile laryngeal stenosis it was produced by a tracheotomy too high up and in the course of which the cricoid had been divided.

In the cases which I have had to treat I have done more by patience and displacement of the tube than by the dilatation which these young subjects had undergone, a dilatation which was usually ineffective and sometimes even harmful by reason of the ulcerations and cicatricial synechiæ which it occasioned.

To sum up: Intercrico-thyroid tracheotomy constitutes in general a bad operation for patients with flexible cartilages.

It should be reserved for urgent cases, in which it is certain that the canula will not be left in too long, or for adults with dilator paralysis or even aneurysm, in whom it is a matter of putting in a permanent canula which will never be taken out, such as we unfortunately meet with in practice, in tabetics or others attacked with bilateral paralysis of the vocal cords.

The intercrico-thyroid is a tempting operation for it is easier to perform than a true tracheotomy, but it must be admitted that the latter is not very difficult in infants or children, and that in adults there is usually time to intervene before asphyxia sets in.

An important point, to avoid cutting the cricoid, is to take the latter as a landmark and as the upper limit of the cutaneous incision.