de ROALDES (A.W.)

Report of a Case of Incomplete Fracture of the Left Cornu of the Thyreoid Cartilage, resulting from Self-inflicted Violence.

BY

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REPRINTED FROM THE

New York Medical Journal

for February 6, 1897.

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REPORT OF A CASE OF INCOMPLETE FRACTURE OF THE LEFT CORNU OF THE THYREOID CARTILAGE,

RESULTING FROM SELF-INFLICTED VIOLENCE.*

By A. W. de ROALDES, M. D.,
NEW ORLEANS.

On the evening of April 7, 1891, R. H. B., aged thirty-seven years, born in New Orleans, an employee of the American Sugar Refining Company, while eating olives, accidentally swallowed one of the seeds, which seemed to him to have lodged itself in the larynx. Alarmed at the serious spell of suffocation which followed, the patient ran immediately from his working place to the street and incited vomiting by putting his finger in his throat, but he does not know whether he expelled the seed or not; at any rate, the sensation of a foreign body in the larynx did not disappear, and therefore the patient began to manipulate his larynx externally, in a rather forcible and even violent manner. Patient remarks that his whole throat "cracked" under the violent pressure of his fingers, but can not localize this cracking to any given spot on the left side of his larynx.

Failing to obtain relief from the sensation, he ap-

* Read before the American Laryngological Association at its eighteenth annual congress.

plied next morning to the Eye, Ear, Nose, and Throat Hospital of the city, when his larynx was carefully examined, but no foreign body could be found. Indeed, an angular, V-shaped projection was observed (as shown in Fig. 1) springing from the left lateral wall in the direction of the arytæno-epiglottidean fold, at a somewhat right angle. No mark of external violence could be observed. Under thorough cocainization the upper arm of the projection was found with the probe to be less consistent than the other one. The mucous membrane

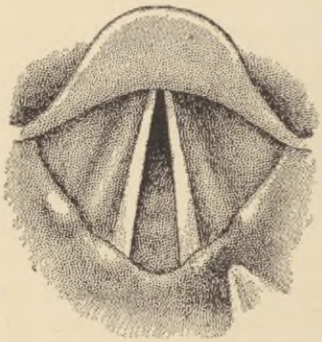

FIG. 1.

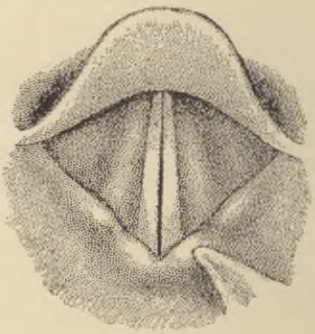

FIG. 2.

was intact, but could be seen as distinctly lifted up by some underlying resisting obstacle. By digital examination, the parts were carefully surveyed, and the angular projection could almost be smoothed down by continued pressure from within. Upon removal of the finger, however, the projecting mass would reappear. This failure to restore and retain in place the deviated parts was not followed by an attempt to overcome the resiliency by breaking through the bend of the lower arm. During the act of phonation (as seen in Fig. 2), which was not otherwise interfered with, the angular projection was seen to advance toward the left arytænoid eminence, almost reaching the free border of the arytæno-epiglot-

tidean fold. After a few days, the disagreeable sensation of a foreign body in the throat gradually diminished, but the patient, seen a few weeks ago, and presenting yet the same objective appearances, stated that months elapsed before he was entirely rid of his unpleasant subjective sensations.

In making in this case the diagnosis of an incomplete fracture of the left superior cornu of the thyreoid cartilage, my assistant, Dr. A. McShane, and myself were guided by the following anatomical considerations:

In this locality we find on the outer side only two normal structures that could give rise to the appearance noted in the patient's larynx. These are: 1st, the great cornu of the hyoid bone; 2d, the superior cornu of the thyreoid cartilage. These two projections are connected by means of the thyreo-hyoid ligament, which is continuous with the thyreo-hyoid membrane. There is no synovial membrane between the cornua. The thyreo-hyoid membrane is so placed as to produce a strong attachment between the hyoid bone and the thyreoid cartilage while allowing great freedom of movement.

The angular protrusion in the upper part of the larynx might have been due to a displacement of the cornu of either the hyoid bone or the thyreoid cartilage. It could not have been caused by displacement of the hyoid bone, for the whole of the bone would have been correspondingly displaced unless there had been a fracture severing the greater cornu from the rest of the bone. In this case there was no such fracture, neither was the body nor the right half of the hyoid bone out of place.

The only other explanation left to us is that the superior cornu of the thyreoid cartilage was pushed inward. This will account for one arm, the lower and

more resisting one of the projecting angle. It will be borne in mind that the tip of the cornu gives attachment to an elastic ligament capable of some extension. When the cornu of the thyreoid cartilage is pushed inward, it draws the thyreo-hyoid ligament after it, causing the mucous membrane to bulge, and in this particular case forming the upper and softer arm of the V-shaped prominence. We therefore had to deal with a displacement of the left superior cornu of the thyreoid cartilage (corresponding in character to a green-stick fracture), the cause of which may be sought in the rather violent pressure made upon the sides of the larynx when the patient swallowed the olive seed. The increased prominence of the angular mass, caused by the emission of a high note, was brought about in this manner: In the ascending scales, the thyreoid cartilage is drawn upward toward the hyoid bone; and when the larynx is in repose again the thyreoid cartilage drops down again. When the cartilage is raised, the normal cornua rise in a vertical plane, but when there is any deviation, as in this case, the displacement becomes more accentuated when the cartilage is pulled upward; and when it drops down again it draws the cornu with it, and somewhat smoothes down the irregularity by dragging the cornu into line.

The New York Medical Journal.

A WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

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PUBLISHED BY

D. APPLETON & CO., 72 Fifth Avenue, New York.