Lectures

ON

ORTHOPÆDIC SURGERY.

BY

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LECTURE X.

ON TORTICOLLIS, OR WRY-NECK.

WRY-NECK is occasioned by structural shortening of some of the cervical muscles; but especially of the sterno-cleido-mastoid muscle, through which the head is twisted to one side; the ear being approximated to the shoulder, and the chin being projected in the opposite direction. Other muscles, as the trapezius, the platysma myoides, and the scaleni, may subsequently become affected. Not only is the head drawn down to the shoulder, but the shoulder is raised; and through the traction which is made upon it by the sterno-mastoid muscle, the clavicle may even become deformed. The face on the side of the contracted muscle appears to be smaller and less developed than on the opposite side; the eye is lower; and the mouth is depressed. This tension which is kept up on the face causes the muscles on the affected side to be nearly or entirely inactive; and an inexpressive and almost idiotic appearance is thus given to the countenance.

Through this muscular contraction, the head is almost immovably fixed; and it consequently becomes necessary to turn the whole body when the patient desires to look at an object which is not immediately in front of him.

This subject naturally follows that of lateral curvature of the spine, since wry-neck is one of the many causes of spinal curvature.

One of the worst forms of lateral curvature of the spine that I have seen lately, was induced by wry-neck of a singularly severe character. I saw it together with my friend Mr. Mould. In this instance, the entire sterno-mastoid muscle of the left side was contracted; the convexity of the cervical curve was on the same side, and the dorsal curve was on the right side, while the lumbar curve was formed on the left side. It was necessary, in this instance, to divide both the sternal and the clavicular portions of the muscle, as well as some tense bands of fascia.

The effect of section of the muscle in lowering the left shoulder, and in tending to reduce the dorsal curve, was extraordinary; so that, although the distortion was of some years' standing, it was removed without much difficulty, and in a short time, after the tense muscle had been divided.

This affection occurs more frequently in the female than in the male. It occurs both as a congenital and as a non-congenital affection. The former is not common. But as a non-congenital affection, it may be seen at any period until middle age; especially it is found to occur in children between the ages of 2 and 12.

Figure 28 represents the congenital form of the distortion in a boy, 12 years of age, who was sent to me by my friend Mr. Hodgkinson.

Fig. 28.

The *Causes* of congenital distortions which depend on muscular retraction are veiled more or less in obscurity. Many theories have been advanced, which need not here be mentioned. One, however, is especially worthy of notice; namely, irritation of the nervous centres; and it is probable that, in a large number of instances of congenital distortion, this is the cause of muscular retraction.

It is unnecessary to say, that this is not the only cause of congenital distortion. Some distortions arise from injuries to, or malformations of, the bony skeleton; others from imperfect development of the muscular system; while others, again, are occasioned by affections of fascia or of skin. These last mentioned causes of distortion, however, are comparatively rare. The usual cause of congenital muscular retraction giving rise to distortion is, as Rudolphi stated, "morbid nervous influence acting on the muscles." This fact was, at a later period, developed into a system by Guérin. He, however, having adopted the teaching of Rudolphi, generalised too freely, and was at length led beyond the truth.

It is known that, where some destruction of the nervous centres has occurred, or where marked change of structure from the normal condition of brain or spinal cord has been induced, every variety of muscular distortion may be found. But, it is said, when the brain and spinal cord are wanting, similar muscular retractions are found to exist. And, again, without appreciable nervous lesion, muscular retraction is found equally. Is it possible to reconcile these several cases?

Perhaps, this question is less difficult to solve than would at first appear. Notwithstanding that the

brain and spinal cord are absent, nervous irritation may yet remain, portions of nervous matter being still undestroyed; irritated meninges and hypertrophied nerves, also, being present to produce perhaps not less distortion than would be induced by the irritation of larger masses of nervous matter. Again, our means of examining nervous structure are yet very imperfect; so that it is impossible to say where healthy structure terminates and where disease commences. We are compelled, therefore, to admit, that every form of muscular retraction may be induced by nervous irritation. And by exclusion it may be proved, that congenital distortion is due either to malformation, occurring, as it then does, in the germ; or to inflammation and destruction of tissue; or to nervous irritation.

Wry-neck, then, being a congenital affection, and being occasioned by muscular retraction, owns nervous irritation as a cause.

The *Causes of Non-congenital Wry-neck* are injury at birth, inflammation, paralysis, and spasm.

When the sterno-mastoid muscle and the parts around are bruised at birth, or when the muscle is lacerated, either by the application of the forceps or other cause, an effusion of blood takes place, which may be followed by inflammatory retraction. And when inflammation of the muscle occurs, from whatever cause, the fibres of the muscle become shortened and unyielding.

But the most frequent cause of wry-neck is paralysis, occurring perhaps after fever, or from cold, or from disease of the nervous centres. The muscle of one side being paralysed, that of the other side contracts upon itself, and becomes rigid and cord-like.

Again, spasm in the muscle exists together with disease of the nervous centres. Brodie relates a case where spasm of the sterno-mastoid muscle alternated

in severe cases of spasmodic wry-neck, disease of the cerebro-spinal axis is perhaps always present.

Treatment of Wry-neck. In the earliest infancy, mechanical means will sometimes be sufficient to overcome retraction when it is not severe. When, however, the distortion is not removed during the earliest years, section of the retracted muscle becomes necessary. This muscular retraction occasionally arises from temporary irritation, as in a case which I lately saw; where the irritation caused by cutting a molar tooth seemed to be the cause of retraction. In such a case, when the offending cause is removed, the distortion also quickly disappears.

After structural shortening of the muscle has taken place, subcutaneous section of the entire muscle, or perhaps of its sternal attachment only, will be necessary.

The patient should be seated, his head being supported by an assistant and slightly inclined forward, while a tenotome is carried behind the muscle from within outwards. The muscle should be divided in withdrawing the knife. The section of the muscle should be made there where the tendon stands out most prominently—from one to two inches above its insertion. By some, this operation is looked upon as dangerous; and instructions are given how to avoid the carotid artery and the jugular vein. This notion, however, is simply absurd. In the division of this muscle, as with every other retracted structure, there is no danger of wounding vessels, if the knife be used with moderate ability, and the blade is kept close to, and is not allowed to pass beyond the retracted tendon.

Some, as Stromeyer, seem to prefer to perform this operation from before backwards. The risk of wounding vessels is greatly increased by dividing the tendon in this manner. Not only this, but every other tendon, when section is required, should be divided by first passing the knife beneath the tendon. The section is thus more easily performed; and it is done much more satisfactorily. Instead of the operation being bloodless, as these subcutaneous operations should be, there is great danger of wounding veins if the edge of the knife be not turned upwards towards the tendon and the skin. Re-union is impeded by the effusion of blood, and abscess may very likely follow.

It is seldom necessary to divide more than the sterno-mastoid muscle. Other contracted structures will probably relax before a well-adjusted instrument. Yet it may be necessary to touch bands of fascia with the knife, or even to divide other muscular fibres.

The patient should be kept quiet in bed, with the head supported, until the wound has healed. An apparatus may then be applied for gradual extension. When the position of the head has been restored, the opposed or paralysed muscle may be stimulated with liniments, galvanism, and the like. And until the two muscles are again of equal power, or nearly equal power, the head will require to be supported, that retraction may not again take place.

Fig. 29.

with insanity. Two very extraordinary examples of this affection have come under my own care; in both of which death has been occasioned by disease of the brain. Figure 29 was taken from one of these cases.

TRICHINA SPIRALIS POISONING. During the past week, an instance of the poisoning of a whole family, and the death of one member, caused by eating a ham, was reported in the city papers. The case was investigated by Dr. Schnetter, who found the ham full of the *trichina spiralis*, and did not hesitate to attribute the poisoning to this parasite. (*American Medical Times.*)