

H. WALDENSTRÖM, STOCKHOLM:

THE INITIAL STAGES OF COXA PLANA

(Printed in this Journal, Vol. V, Fasc. 1).

ROB. HANSON, VARBERG:

A CASE OF MULTIPLE SEPTIC BONE CYSTS WITH
AN OSTITIS DEFORMANS-LIKE PICTURE OF DISEASE

(Abstract is not submitted).

P. G. K. BENTZON, COPENHAGEN:

TORTICOLLIS

The torticollis of which I am going to speak is the simple muscular torticollis due to permanent shortening of the sterno-cleido-mastoid muscle of one side of the neck.

The etiology and patogenesis of the affection are not yet fully understood. Formerly it was generally believed to be due to an obstetrical lesion—an over-stretching of the sterno-cleido-mastoid during difficult delivery—with following hematoma formation in the muscular tissue, and this is still the explanation given by several German orthopedists. Others have maintained that the deformity developed already in the intrauterine stage, as a result of an ischemic laming of the muscle owing to forced position of the fetus. The first to suggest this explanation was *Voelcker*, in 1901. Here in Scandinavia, *Krogius* has made some detailed studies of the problem, and has, from microscopical examinations of excised tissue from the sterno-cleido-mastoideus of torticollis patients come to the conclusion that the condition is due to a process in the muscle, continuing also after

the fetal stage, and characterised by a proliferation of the connective tissue, with simultaneous destruction of the muscle fibres. *Krogius* shows that this histological picture is different from the one found in cases of ischemic paralysis, and therefore holds the earlier theories concerning the origin of the deformity to be wrong. He finds the same curious, characteristic process of degeneration in the interosseous muscles of hoofed animals, as a physiologic process which gradually leads to the almost complete disappearance of those muscles, whose functional importance for the animal is very slight. As to the possible importance of the analogy thus found by *Krogius* I shall not venture to express any opinion, but the conclusion which he draws from it in his paper, published in the *Acta Chirurgica* for 1924, is undoubtedly correct; torticollis is beyond question the result of a serious, by all evidence primarily existing, degenerative process.

Some time ago, when my studies over various forms of obstetrical paralysis led me to examine a considerable number of newborn children brought into the world by difficult artificial delivery, I observed in not a few of these the existence of even rather considerable hematomas in otherwise normal, not shortened, sterno-cleido-mastoid muscles; and in those cases the hematoma disappeared in the course of a few weeks, without leaving any permanent traces. When it sometimes seems that the torticollis is due to an obstetrical lesion of the sterno-cleido-mastoideus, with resulting hematoma formation in the latter, it is simply because the sequence of the causative factors is reversed. What actually happens is that the shortening of the muscle, which exists already during the fetal stage, results in its becoming injured by over-stretching during the process of delivery, so that it becomes the seat of a hematoma immediately after birth.

For the orthopedist, torticollis becomes of interest as a therapeutical problem; and in choosing a method for correcting the deformity it is important that we should realise that we have to do here with a quite exceptionally tense, inelastic »state of contracture« in a muscle which adheres very firmly to its sur-

roundings, especially to the strong fascial sheets of the neck. In the case of almost any other muscle a simple transversal myotomy or tenotomy will be sufficient to ensure complete redressment of the malposition due to the shortened muscle, but in torticollis this must not be counted with. Otherwise *Lange's* operation, consisting in a simple, open cutting of the upper part of the muscle, close to its attachment to the mastoid process, would be the ideal procedure; but, as experience shows, *Lange's* operation, by itself alone, will not be sufficient except in the very mildest cases.

Conservative treatment, with stretching under suspension, corrective position during nights, etc., will not redress torticollis. As radical treatment, surgical intervention is the only means that can be considered.

In choosing the form of operative procedure one must remember that the operation is a *cosmetic* one; it is the regard for the patient's appearance afterwards that must be the determining factor. It is therefore not sufficient to get the malposition corrected, but the result must be such that the neck looks nice and natural, with the fewest possible scars; its shape and lines normal, and with a minimum of cranial scoliosis. The last named consideration makes it advisable to operate rather early.

By the operation which is probably the one most frequently employed, namely transversal myoteny on the muscles with clavicular and sternal attachment, one does not succeed in getting the neck to look normal. If this operation is to be done so thoroughly, in a case of only fairly pronounced torticollis, that the lengthening of the muscles becomes sufficient, it will result in a disfiguring *flattening* of its lower part on the side where the operation has been made. The important thing is to choose a form of operation which, at the same time as it causes a sufficient slackening of the sterno-cleido-mastoideus, will preserve the natural contour of the latter on the neck.

Since 1912, *Stomann*, and afterwards I, have used, as the normal method for such cases, a *double* tenotomy of the sterno-cleido-mastoid muscle, done in the following manner. The patient is placed in the usual position, on the back, with a small

pillow under the shoulders. 1) First, a small transversal incision, about 2 to 3 centimeters long, is made over the upper part of the muscle, a little below its attachment to the mastoid process;

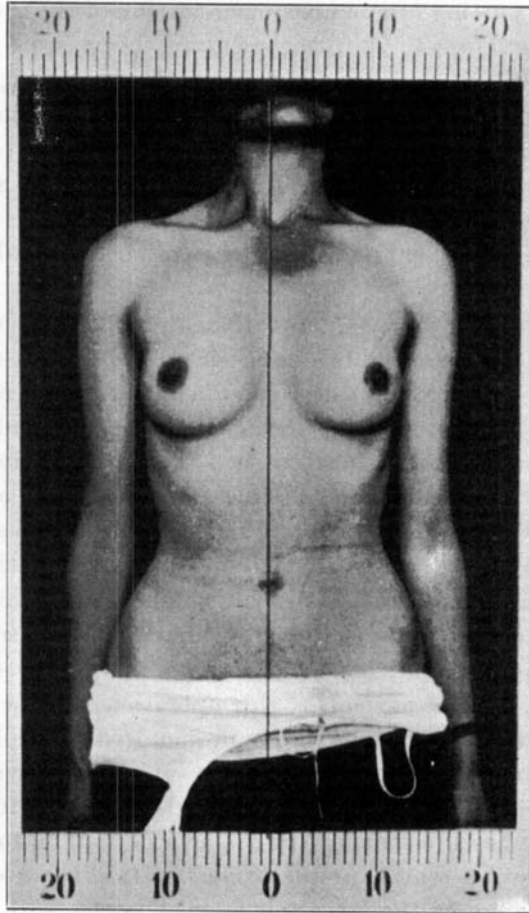


Fig. 1.

Not completely corrected torticollis of right side. The head is not inclined to the right; but the neck is slightly displaced toward the left in relation to the sagittal plan of the body.

the muscle is completely isolated all the way around, and a hollow sound pushed underneath it, so as to expose it in the

incision. 2) Next, through a small transversal incision close to the medial end of the clavicle, a careful *total* myotomy is done on the clavicular head, until the deep fascia of the neck lies completely uncovered. If this fascia is very taut, it must be further divided by tearing it carefully by means of a couple of hooked forceps. All this is done under strong over-correction of the position of the head, and a downward pull on the arm and shoulder, so as to be sure that all the contracting muscle fibres are found and cut through. 3) After this has been done, the muscle is divided close to the upper end, *ad modum* Lange, and

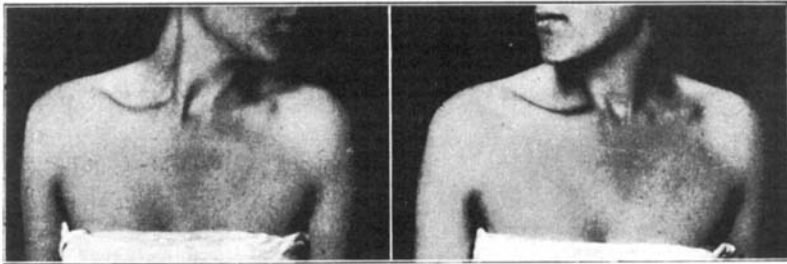


Fig. 2.

(See text). The right sterno-cleido-mastoideus tightens when the head is turned toward the right.

the incision closed. 4) Finally, *the sternal head is lengthened plastically* through the lower incision, with careful attention to not risking any forcible stretching. Skin suture. Bandaging. Cotton collar (a modified Schanz's collar, shaped as a long roll).

The cutaneous sutures are removed on the ninth day. Two weeks after the operation the patient is fitted with a plaster-of-Paris collar, which need not be applied so as to over-correct very much if the lengthening of the muscle has been done thoroughly enough. This collar is left on for from three to five weeks, according to the degree of the case. Then again cotton collar for some weeks, and at the same time oblique suspensions, massage and exercises (scoliosis gymnastics).

The material of the clinic comprises 43 cases operated on. For particulars concerning age, sex, etc. of the patients, see Table.

Of the operations, 33 were double myotomies, 10 single; the latter for the most part in the early days of the clinic, before 1912. There has been no case of recurrence. Since 1917 only double myotomies have been done, except in one, very mild, case. There have been no complications, especially have lesions of the n. accessorius been happily avoided. Most of the cases have been followed up for several years after the operation, and in all of



Fig. 3.

Rather pronounced case of torticollis of the right side; boy, ten years old.

them has the result been good and permanent. Not only has the medial position of the head been natural, but the neck has looked well, of suitable length, and the movements in all directions alike, whether to the right or the left. Only in one case must I say that the lengthening of the sterno-cleido-mastoideus has not proved quite sufficient (Figs. 1—2). This patient is a young woman, now twenty-three years old, on whom the operation was done in 1917, when she was seven years old. It will be seen that there is no sideways inclination of the head, but the neck is a little shorter than could be desired from a cosmetrical point of view, and the right sterno-cleido-mastoideus, which was the one operated on, tightens on the head being turned, *both* towards the

right and towards the left. The criterion for an absolutely perfect torticollis operation is that the muscle operated on tightens visibly *only when the head is turned towards the opposite side* (Figs. 3—4).

In the more severe cases of caput obstipum it is not only the affected sterno-cleido-mastoid muscle that is shortened, but the

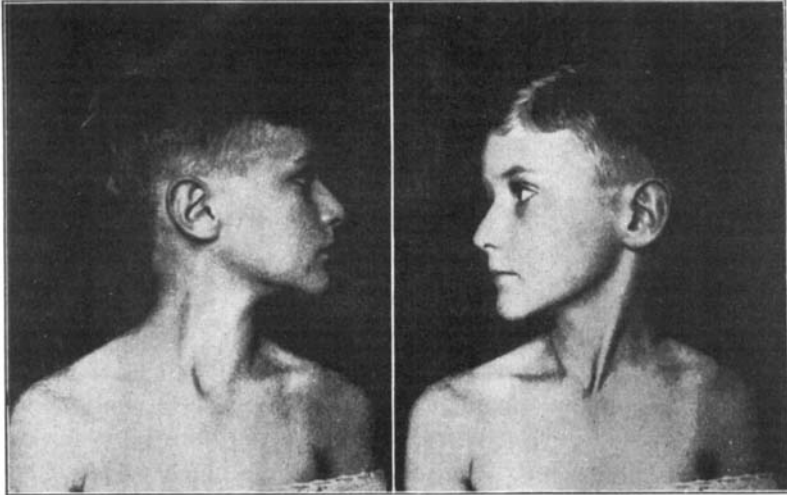


Fig. 4.

The same patient as in fig. 3, 2 months after operation. Complete correction. The sterno-cleido-mastoideus tightens only when the head is turned to the opposite side.

whole neck is shorter than normal, also the sterno-cleido-mastoid of the opposite side. In such cases one therefore often, for some time after the operation, sees that this muscle, which has not been operated on, is the tautest one of the two.

When I have chosen to say a few words on this, perhaps not so very interesting subject, at our meeting this year, it is because it has never been touched upon or discussed at any of the fourteen previous meetings of the N. O. F., and yet the affection is one which all orthopedists are called on to deal with at some time or other. An exchange of experiences and views on the subject may therefore be useful and profitable after all.

REVIEW OF CASES

Total no. of cases, 43. Male, 16, female, 27. Double myotomies, 33; single do., 10. Operations on right side, 21; on left side, 22.—Age of patients at time of operation:

2— 5 years	11
6—10 —	18
11—15 —	8
16—20 —	2
21—25 —	2
26—40 —	2

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DISCUSSION:

V. Bülow-Hansen, Oslo:

As we have seen, the operation used by Bentzon gives good results. Many roads lead to Rome, as we know. I have proceeded differently. I make a transverse incision, about four or five centimeters long, along the clavicle, then loosen both portions of the sternocleidomastoideus way up, operating bluntly as far as practicable, and finally split à la Bayer as much as possible, whereby a considerable lengthening of the muscle is obtained. At the same time, I loosen the fascia of the neck bluntly, both posteriorly and upwards, by means of Langenbeck's levatorium. In that manner, the outline of the neck is preserved, and all tension done away with. There is no fixation in bandage. The patient is kept in bed for two or three weeks, with the head low. There is no after-treatment. The patient is made to practise daily before a mirror, in order to accustom him to keep his head straight.