

**Cases to illustrate the relationship which exists between wryneck and congenital haematoma of the sterno-mastoid muscle / by D'Arcy Power.**

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CASES TO ILLUSTRATE THE RELATIONSHIP  
WHICH EXISTS BETWEEN  
WRYNECK AND CONGENITAL HÆMATOMA  
OF THE STERNO-MASTOID MUSCLE.

BY  
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TO THE VICTORIA HOSPITAL FOR CHILDREN.

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Read January 24th, 1893.

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Received November 2nd, 1892—Read January 24th, 1893.

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It is not my wish, gentlemen, to draw your attention this evening to a consideration of the causes of congenital wryneck. I desire to place on record the cases of hæmatoma of the sterno-mastoid muscle which have come under my notice at the Victoria Hospital in the course of the last five years. Many such cases have already been recorded, so that the mere enumeration of mine would add but little to the general stock of our knowledge. My object in reading this paper before you is to show that a certain relationship exists between wryneck and congenital hæmatoma of the sterno-mastoid.

Congenital hæmatoma of the sterno-mastoid muscle has long been known as an affection of no uncommon



occurrence in children ; but nearly all writers upon the subject have occupied themselves with its causation and pathology rather than with the results to which it leads. In all English text-books which I have examined, allusion is made to the fact that injuries received during birth may lead to wryneck ; but except in Mr. Owen's book on ' Diseases of Children,' and in a very excellent paper by Mr. Clutton, to which I shall presently refer in greater detail, I have been unable to find any account of cases of hæmatoma of the sterno-mastoid followed out to their termination in wryneck. This omission is no doubt due in part to the difficulty of keeping cases under observation in a large town—partly to the fact that the patient often comes under the care of two different practitioners, first the accoucheur, and then the surgeon to a children's hospital. The main cause, however, is an error which has crept into our ideas of the pathology of the condition ; for even so lately as last year Mr. Clutton, in writing about cases of this nature, was obliged to prove that the tumour was not the result of syphilis. If it were more generally recognised that the condition is always due to injury, and to injury alone, the proper pathological term of hæmatoma would be employed, rather than the old and indefinite expressions, " chronic induration " and " tumour " of the sterno-mastoid muscle, which hitherto have been used when alluding to this affection—expressions which have survived in clinical use from the pre-scientific age of morbid anatomy.

In Germany and France, however, where the true cause of hæmatoma has long been known, there has been an equal difficulty in tracing out these cases to their occasional termination in wryneck. Stromeyer, following Dieffenbach, the father of orthopædic surgery, taught that congenital wryneck was almost without exception due to injury done to the sterno-mastoid muscle at birth, and that it was the result of shortening at the place of injury by scar-contraction. This teaching I hope to show this evening is too catholic ; but, on the other



hand, it is equally incorrect to assert, as do Petersen and Weiss, that congenital torticollis is never caused by direct injury to this muscle.

Professor Witzel (34),<sup>1</sup> of Bonn, has recently published a paper, "Ueber die Entstehung des sogenannten angeborenen musculären Schiefhalses," in which with true German industry he traces the different views which have been held as to the cause of congenital wryneck from the time of Alexander the Great—who is said to have had a slight torticollis—up to the present time. In this article he discusses the views held by Dieffenbach, Stromeyer, Bohn, Petersen, and others, but he can only quote a few isolated instances in which hæmatoma of the sterno-mastoid resulted in wryneck, because so few cases have been followed to their termination. In Belgium, Tordeus (29), who has written a paper on the subject of hæmatoma of the sterno-mastoid, has not met with better success.

Mr. Bryant (4), in his Lettsomian Lectures in 1863, first drew public attention in England to cases of congenital tumour of the sterno-mastoid muscle, though isolated cases had previously been recorded by Dr. Wilks (31) and Sir James Paget (18).

In 1871, Mr. Thomas Smith (26) read a paper before the Clinical Society of London "On the Nature of the so-called Congenital Tumour of the Sterno-mastoid Muscle." He gave an excellent account of the condition, and quoted two cases. The paper is remarkable because he explained correctly the cause and the pathology of the condition, although no post-mortem examination of a similar case was known to him. It is certain that if proper attention had been bestowed on this paper, many children would have escaped a course of grey powder and mercurial inunctions. Mr. Smith makes no allusion to the subsequent occurrence of wryneck.

Mr. Henry Arnott (1), in 1874, records eight cases of this

<sup>1</sup> The reference numbers relate to the table of Bibliography, pages 150 and 151.



affection in a paper entitled "Jottings from the Surgical Out-patient Room." He there states that he has never been able to trace any wryneck in the adult to this condition in infancy, nor has he ever been able to satisfy himself as to the cause of the affection. He does not think it is the result of syphilis or injury, but supposes that the induration is due to some hypertrophic change in the connective tissue occurring during intra-uterine life, which gradually subsides after birth.

Dr. Frederick Taylor (28) had the good fortune to obtain a post-mortem specimen of a sterno-mastoid muscle affected in this manner.

Dr. Spencer (27), however, shows that it was not absolutely the first morbid preparation, as autopsies had been made in similar cases by Heusinger<sup>1</sup> at Würzburg as early as 1826, and by Professor Skrzeczka (25) of Berlin in the year 1869. Dr. Taylor's case is well known. It is published in the 'Transactions of the Pathological Society' for 1875. From his account, and from the drawing of the microscopical appearances which accompanies it, there can be no doubt that in this case the affection was due to a rupture of the muscular fibres. Dr. Taylor does not make any mention of wryneck as a possible consequence of this injury to the muscle, although in his remarks on the case he appears to imply that such a termination is possible.

Dr. Rolleston's courtesy enables me this evening to show you a specimen, which I believe to be almost exactly similar to that obtained by Dr. Taylor. It consists of the greater portion of the left sterno-mastoid muscle of a male child aged one month. The lower tendinous part of the muscle contains a firm and homogeneous white tumour measuring one inch lengthwise and three-eighths of an inch across. From the sections which are placed under the microscope you will see that the tumour consists of well-developed fibrous tissue with a few degenerate muscle-fibres entangled in the meshes of the connective tissue.

<sup>1</sup> 'Berichte v. d. königl. Zootomischen Austalt,' 1826, p. 42.



There is no trace of any blood-clot or blood-pigment. The lymphatic glands round the sterno-mastoid were normal in appearance. The history of the child was unobtainable, but it is interesting to find that the patient died from the effects of a hæmorrhage into his right lateral ventricle. The tumour is therefore possibly the result of a hæmorrhage into the muscle during intra-uterine life, for neither in this case nor in that presented by Dr. Taylor is it likely that such complete disappearance of the blood-clot would have taken place in a month.

Mr. R. W. Parker (19), with his usual care and accuracy, has published an excellent series of cases of hæmatoma of the sterno-mastoid muscle which have come under his notice. He says in this paper that "it would be difficult to disprove Mr. Smith's theory as to the cause of the affection," though he does not wholly give in his adherence to it. In Mr. Parker's case the swelling was confined to the lower and tendinous part of the muscle. This is not, however, by any means an invariable case, for out of a total of 106 cases which I have gathered together from different sources, the swelling was situated in the upper and middle parts of the muscle in twenty-two, in the lower part in thirteen, in one the whole muscle was affected, whilst in the remaining cases the exact position is not noted. In connection with statistics it may be as well to add here that in these 106 cases recorded by English, American, German, French, and Belgian surgeons the right sterno-mastoid muscle was the seat of injury 47 times, the left 36 times, and in five it was bilateral.

Mr. Clutton (6) gives the best clinical account of these cases in the 'St. Thomas's Hospital Reports' for 1888, and I have to offer him my very best thanks for allowing me to use some of them this evening. He gives notes of eighteen cases which have come under his personal observation, and after a very careful examination of the data thus obtained he finds himself in a position to agree with Mr. Smith that violence is the main cause of "tumour



of the sterno-mastoid." This paper is also of especial interest, because Mr. Clutton incidentally draws attention to the fact which I wish to demonstrate this evening, that in some cases—four out of the eighteen enumerated in his series—a tendency to wryneck ensued upon congenital hæmatoma of the sterno-mastoid muscle.

Mr. Golding-Bird (9), in an able paper on congenital wryneck, makes a very necessary distinction between the simpler form of wryneck, which we are now considering, due in some cases to hæmatoma of the sterno-mastoid, and the much more severe form accompanied by facial hemiatrophy, which he thinks may sometimes be produced by an acute local encephalitis.

Finally, Dr. H. R. Spencer (27) has recently completed an interesting investigation into the pathology of "Hæmatoma of the Sterno-mastoid Muscle of New-born Children." In this paper details of fifteen cases are given, in nine of which microscopic sections were prepared. These sections Dr. Spencer has been so kind as to bring here to-night. They prove beyond the possibility of doubt that the cause of the condition is injury resulting in a rupture of the fibres of the sterno-mastoid muscle with effusion of blood into the connective tissue. Dr. Spencer also draws attention to the fact that such injuries may very probably terminate in wryneck, although he is unable to bring forward any cases which have come under his own observation.

I have seen five cases of hæmatoma of the sterno-mastoid muscle during the last five years. Mr. Edgar Willett has kindly allowed me to examine three of his cases, and Mr. Clutton, with equal courtesy, has given me leave to use the notes of some of his unpublished cases.

In none of these cases, so far as I could observe, was there any obvious asymmetry of the face. This point is of great interest, for it appears possible that the presence or absence of facial asymmetry may perhaps serve to distinguish between these comparatively slight cases of wryneck due to injury and the more severe forms which,



as Mr. Golding-Bird has pointed out, may be caused by much more obscure lesions than partial rupture of a superficial muscle. The notes of these cases are briefly as follows :

CASE 1.—Ashley T—, a boy æt. 6 months. Hæmatoma of the right sterno-mastoid muscle. Forceps had been applied at birth with sufficient force to indent the right temple. A slight wryneck ensued, which in the course of eighteen months yielded to simple treatment by shampooing. When the boy was last seen he had an alternating squint. There was no trace of the original hæmatoma, but the dent on his right temple was still perceptible. He was an only child.

CASE 2.—Frederick W—, æt.  $3\frac{1}{4}$  years ; second child. There was an induration of the right sterno-mastoid muscle at the point where it is crossed by the external jugular vein. Breech presentation. The wryneck was sufficiently well marked to render division of both heads of the sterno-mastoid necessary. Five years later the head was evenly balanced, but the induration was still perceptible.

CASE 3.—Edith J. B—, æt.  $5\frac{3}{4}$  years. Breech presentation. Three weeks after birth a hæmatoma of the right sterno-mastoid muscle was noticed. The child has had a wryneck for the last year. Both heads of the sterno-mastoid were divided. It was noticed at the time of the operation that there was a hard thickening which extended through the muscle about the middle of its long diameter.

CASE 4.—Baby B—, a girl æt. 1 month. Hæmatoma of both sterno-mastoids immediately above their sternal heads. First child. Mother aged 33. Very hard labour ; head presentation ; forceps were used. Both swellings eventually disappeared, and the mother says that she does not remember to have observed any ten-



dency to wryneck. The child died of pneumonia at the age of two years and ten months.

CASE 5.—Thomas C—, æt. 6 weeks ; ninth child. Head presentation. Easy labour attended by a midwife. Well-marked hæmatoma of the left sterno-mastoid muscle about its middle. Five months later death occurred from tubercular meningitis. There was no tendency to wryneck.

CASE 6.—John H—, æt. 5 months ; first child. Hæmatoma of the right sterno-mastoid. Forceps delivery. Death from tabes mesenterica at thirteen months. No history of wryneck could be obtained.

CASE 7.—Frank McG—, æt. 5 months. Hæmatoma of the right sterno-mastoid, first noticed at five weeks. The hæmatoma is in the substance of the muscle just above its sternal head ; the tendon can be felt below the tumour, and appears to be normal. First child, but the mother has had one miscarriage. Head presentation ; forceps were used. There is a slight inclination of the head towards the affected side, but at present it is too slight to call a wryneck. The case is under the care of Mr. Edgar Willett.

CASE 8.—Alice L—, æt. 13 years ; has had a wryneck almost since birth. A tumour in the left sterno-mastoid "like a bone" was first noticed when she was a few weeks old. The head was then straight. The deformity came on subsequently, and was eventually so severe as to render tenotomy necessary. There was distinct asymmetry of the face.

CASE 9.—Frederick P—, æt.  $3\frac{1}{4}$  years ; the ninth child. A lump was observed on the right side of his neck shortly after his birth. He was brought to the hospital to be cured of a wryneck ; on examination it was found that



the right sterno-mastoid was rigid and thickened along its whole length. Both heads of the muscle were divided.

CASE 10.—Annie W—, æt. 1 month ; first child ; mother aged 51 ; married fifteen years ; no miscarriages. Breech presentation ; very hard labour ; no instruments used. Hæmatoma of the right sterno-mastoid in its lower third. The child keeps its head persistently to the right side.

CASE 11.—Edith H—, æt. 4 months. Sixth child. Transverse presentation. Version. Hæmatoma of the left sterno-mastoid in its lower third. The swelling was first noticed fourteen days after birth. It was getting smaller when the child was last seen, and there was no suspicion of a wryneck.

The following cases have already been published by Mr. Clutton in the eighteenth volume of the 'St. Thomas's Hospital Reports,' in the paper to which reference has already been made.

CASE 12.—Harriet C—, æt. 6 weeks. Tumour of the right sterno-mastoid. No evidence of syphilis. Foot presentation. Twelve hours in labour. Great traction was made upon the presenting feet. In four months it is noted that the tumour had "quite gone."

This patient came again as an out-patient at seventeen months, and again at two years of age, with well-marked wryneck from contraction of the right sterno-mastoid. No contraction of the trapezius. Mr. Clutton was about to treat this case by tenotomy when it disappeared from his clinic.

CASE 13.—Charles C—, æt. 2 weeks. Tumour of the left sterno-mastoid at the junction of the upper with the middle third. It was a large tumour, but apparently confined within the sheath of the muscle. No evidence of syphilis. Mother aged twenty-three. First confine-



ment. In labour two or three days. Forceps used. Two months after this baby was first seen the tumour had almost entirely disappeared, but there was well-marked contraction on that side producing wryneck.

CASE 14.—Walter B—, æt. one month. Tumour of left sterno-mastoid at the junction of the middle with the upper third. Long fusiform swelling with soft centre; left muscle shorter than the right. Right clavicle deformed from recent fracture; first noticed two days after birth. No evidence of syphilis. Mother aged thirty. Has had four children. Was in labour on this occasion two or three days. Head presentation. "They all had a turn at the child's head." "Dragged away at last," but no instruments were used. In two months the tumour had almost disappeared, but there was a suspicion of commencing wryneck. Mr. Clutton did not see the child after this note.

CASE 15.—Alfred P. J—, æt. five weeks. Tumour of right sterno-mastoid, upper half. In part fluctuating; accompanied by contraction so as to hold the head down on that side. First noticed fourteen days after birth. No evidence of syphilis. Mother aged twenty-two. First confinement. Short labour. Head presentation. Instruments used by doctor.

I find on putting my results into a tabular form that there are 106 cases of hæmatoma of the sterno-mastoid muscle easily accessible in the English and foreign periodicals. In 20 of these cases death occurred too soon for wryneck to have become apparent; in 47 cases wryneck was not looked for; in 25 cases it occurred, but in 4 it was so slight and transient as to be unimportant; in 14 cases wryneck was looked for but was not found. Well-marked wryneck therefore occurred in 21 cases at least, out of the total of 106 cases of congenital hæmatoma which are recorded. In Germany Dr. Bohn



(2), of Königsberg, and in France Dr. Rédard (23) have endeavoured to ascertain whether hæmatoma of the sterno-mastoid leads to torticollis. Dr. Bohn thinks that such a termination is possible, but Dr. Rédard believes that it is most unusual. In England, however, the observations of Mr. Clutton, of Mr. Edmund Owen, and of myself are conclusive. We have actually traced out cases of hæmatoma of the sterno-mastoid muscle from early infancy to the time when they required tenotomy of the muscle for the relief of wryneck. Mr. Owen's case was an isolated one, so it need not be further considered. Taking Mr. Clutton's, Mr. Willett's, and my own together, the total number is thirty; of these eleven eventually had wryneck, but in two of the eleven cases the torticollis was so slight that it was hardly worth while taking it into account, whilst in four cases it was necessary to divide the tendon.

"In the present day," Cardinal Newman wrote in the first volume of his 'Essays Critical and Historical,' "mistiness is reputed the mother of wisdom." I do not wish to be esteemed wise, and I will therefore avoid being misty by putting my conclusions as concisely and plainly as possible.

It appears that—

1. Hæmatoma of the sterno-mastoid muscle may be due to intra-uterine injuries, which are rare, or to injuries at the time of birth, which are common.

2. Congenital hæmatoma of the sterno-mastoid muscle occasionally predisposes to wryneck in children who are otherwise healthy.

3. Wryneck due to hæmatoma of the sterno-mastoid varies in degree from the slightest and most transient form to one of such severity as to require tenotomy of the muscle for its cure. The wryneck thus produced is not—so far as I have seen—accompanied by asymmetry of the face.

4. Every child who has the misfortune to be injured in this manner must be carefully watched for a much longer



period of time than is usually considered necessary to obviate any tendency to the formation of a wryneck.

5. Surgeons should give more prolonged attention to children affected with hæmatoma of the sterno-mastoid muscle, to enable them to determine still more accurately what are the ultimate and usual effects of the injury.

I believe that these conclusions are trustworthy, for care has been taken not to base the premises on any selection of cases. The subject is an interesting one, although it is only of minor importance in surgery, and I trust that you will not feel your time has been ill-spent in listening to this account of it.

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(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. v, p. 52.)



