Facial paralysis, congenital, unilateral and of unique distribution / by F.W. Langdon.

Contributors

Langdon, Frank Warren, 1852-1933. Tweedy, John, 1849-1924 Royal College of Surgeons of England

Publication/Creation

[Baltimore]: [publisher not identified], 1899.

Persistent URL

https://wellcomecollection.org/works/q963q9bv

Provider

Royal College of Surgeons

License and attribution

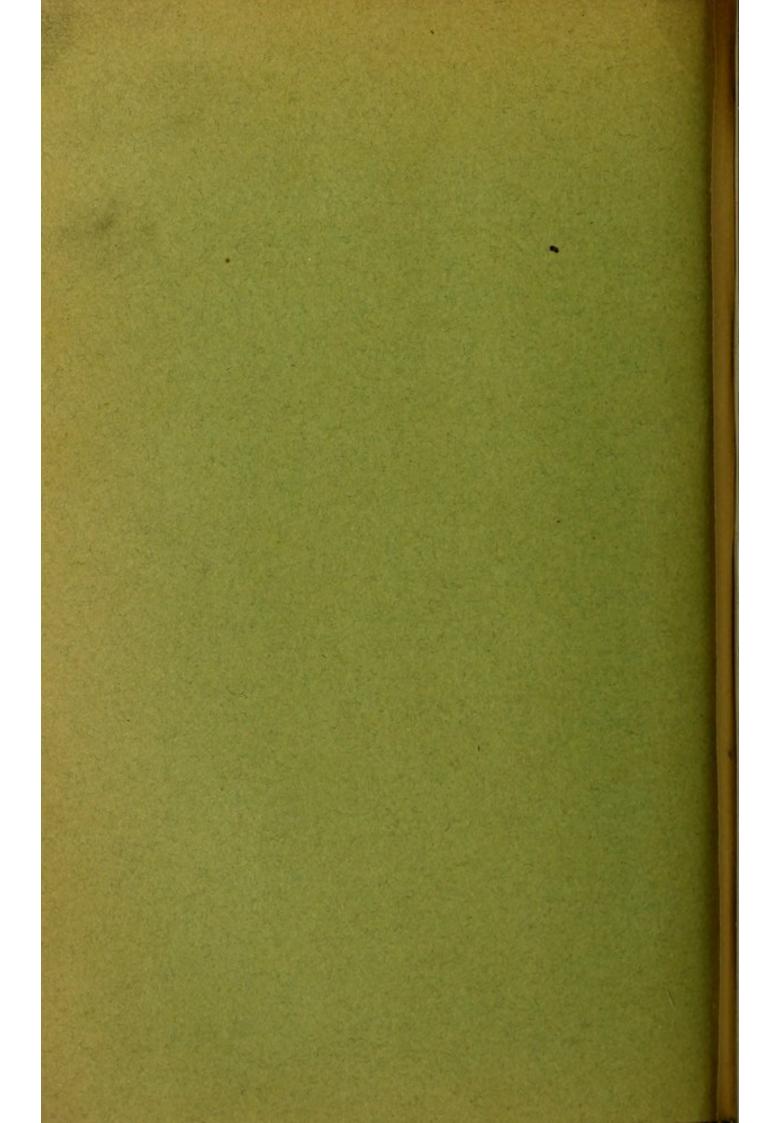
This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. Where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection 183 Euston Road London NW1 2BE UK T +44 (0)20 7611 8722 E library@wellcomecollection.org https://wellcomecollection.org





FACIAL PARALYSIS, CONGENITAL, UNI-LATERAL AND OF UNIQUE DISTRIBUTION.*

By F. W. Langdon, M. D., of Cincinnati.

A. F. L., thirty-three, Kentuckian, single, was born and grew to maturity on a farm. For the past five years he has been a professional nurse employed most of the time as an attendant in hospitals for the insane. In January, 1899, he presented himself to me for advice regarding some nervous weakness following la grippe, when I noted that he had a facial palsy of unusual type. The movements of the lower facial group were almost intact, whereas the left upper face presented a marked lagophthalmos and total absence of occipito-frontalis action.

On inquiry as to the duration of the paralysis he informed me that it had existed from birth, and that he was told by his mother that he had been "born so."

The Family History does not seem to throw much light on his defect. His mother was over sixty at her death which was due to cancer. His father is living at sixty-five and generally healthy with the exception of occasional "neuralgic" pains in his head. Of his fourteen brothers and sisters, one brother died at twenty after having been a paraplegic for a year; one sister died at fifteen of dropsy; three other children of the family died in infancy from unknown causes. The nine living brothers and sisters are said to be healthy, excepting that one has had inflammatory rheumatism. With the exception of the paraplegia above noted, no nervous disease or deformity is known amongst the other children.

Personal History. The physician who officiated at his birth

^{*}Read at the twenty-fifth annual meeting of the American Neurological Association, June 14 and 15, 1899.

is not living. At my request he has recently written to his father and grandmother, both of whom were present at his birth and who are positive in regard to three things, viz.:

1. That he has never closed his left eye since birth.

- 2. That no instruments were used at his birth nor was the labor an unusually difficult one, he being the eighth of fifteen children.
- 3. He has never had a fit or convulsion or unconscious attack.

There is no history or evidence of ear disease.

He states that as he grew up on the farm the annoyance due to constant irritation of the left eye by wind, dust, etc., was so great as to compel him to seek a less exposed means of livelihood. The presence of considerable conjunctival hyperemia and a corneal cicatricial area due to an old keratitis are evidences of the effects of this irritation.

At the age of fourteen he had a moderately severe attack of rheumatism in both knees, which did not confine him to his bed. In December, 1898, a few weeks before consulting me, he had an attack described as la grippe which disease was more or less prevalent at that time.

There is no history or evidence of venereal disease. Habits excellent as regards alcohol and tobacco.

Personal examination, January 31, 1899: Physically the patient is a large, well-proportioned man, five feet eleven inches in height, weighing one hundred and ninety-five pounds. Complexion medium; hair and mustache dark brown. Irides dark gray mottled with dark brown, plentifully at the free borders. Teeth sound but of a "gouty" type—i. e., ground off squarely and flat at their cutting edges. Temperature 97.5, pulse 120 and of irregular rythm and low tension at this examination, owing probably to his temporary indisposition. Subsequent examination when in his usual health shows a temperature of 98.6 and pulse rate of 76, fairly regular and of good tension.

A systolic bruit is audible at the cardiac apex, but does not appear to cause any somatic symptoms.

Lungs present nothing abnormal.

Digestion is usually good and bowels act normally. At the time of this examination however he had a slight diarrhea which yielded in a day or two to dietetic restrictions.

The genito-urinary system presents no defect. Urine looks

normal, S. G. 1028; albumin and sugar are absent.

Mentally he is well-balanced, logical and quick of comprehension. He has a fair education.

His speech functions are normal as regards reception,

elaboration and emission of language. Articulation is not defective.

Cranial Nerves:

I. Olfaction is not defective on either side to the usual tests.

II. Dr. Robert Sattler who has kindly examined the eyes for me, reports as follows: "I can find no lesion of the fundus. The papillæ, aside from a delicate capillary injection, giving the disks a more markedly reddish hue, are normal.

"Vision is reduced in the left eye by corneal scars and the eye is enormously hypermetropic (H6). This is also probably congenital. With corrective lenses the vision in this eye is

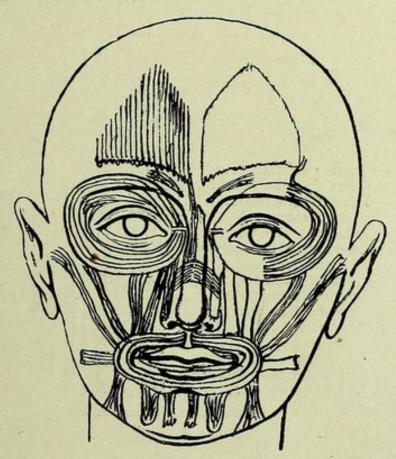


Fig. I.—Muscles in outline are absent; those shaded respond to volition, to faradism and to galvanism. R. D. is absent.

surprisingly good, viz.: 0.4. There is no defect of visual fields or color sense to ordinary examination. The right eye is practically normal."

III., IV., VI. The pupils are equal and respond well to light, accommodation and convergence. Ocular movements present and free in all directions; but in outward excursions of the globes, neither cornea quite reaches the external canthus. The left external rectus seems rather weaker than the right.

Nystagmus and diplopia are absent.

V. Taste prompt and correct in each half of tongue tested separately outside of mouth, with salt, sweet and bitter substances.

Facial sensation is excellent everywhere on both sides.

Muscles of mastication act well and equally.

VII. The following muscles of the left face fail absolutely

TABLE OF ELECTRICAL RE-ACTIONS.

O=No response, -= response diminished, N=normal. See Fig. 1.

		RIGHT. Far. Galv. Qnt. Qlt.			Far. Galv. Qnt. Qlt.		
	Occipito-frontalis	N	N	N	0	0	0
Orbicular portion Palpebral portion	Orbicularis palpebrarum { inner half	N	N	N	0	0	0
	" { outer half	N	N	N	-	-	KC>
	" "	N	N	N	-	-	KC>
	Tensor tarsi	N	N	N	-	-	KC>
	Corrugator supercilii	N	N	N	-		KC>
	Pyramidalis nasi	N	N	N	0	0	O
	Compressor naris	N	N	N	N	N	N
	Dilatores alæ nasi Levator labii superioris et ale-	N	N	N	0	0	0
	quæ nasi	N	N	N	0	0	0
	Levator labii sup. proprius	Ñ	N	N	O	O	0
	Zygomaticus major	N	N	IN		-	KC>
	Zygomaticus minor	N	N	N	-	-	KC>
	Risoreus	N	N	N	0	0	0
	Orbicularis	N	N	N	N	N	N
	Depressor anguli oris	N	N	N	N	N	N
	Depressor labii inferioris	N	N	N	N	N	N
	Levator menti	N	N	N	N	N	N

to respond to voluntary effort, faradism or to galvanism: (See diagram figure 1, and table of electrical reactions); The occipito-frontalis; the inner half of the orbicularis palpebrarum, the pyramidalis, the levator labii superioris et alequæ nasi, the levator labii superioris proprius and the risoreus. On the same side the zygomatici respond to volition, to faradism and to galvanism. A. C. < K. C. quickly, but more feebly than the corresponding muscles on the right; *i. e.*, the electrical irritability is diminished quantitatively on the left. The outer half of the left orbicularis palpebrarum also responds to volition, and to both electrical currents quite as promptly as the corresponding muscle of the right side, but also requires a slightly stronger current and its action ceases about midway of the or-

bital rim as shown in the diagram (Fig. 1). A curious diverticulum of a few fibers from its upper margin turns vertically upward as shown in the figure. The winking movements are quick, but do not close the eye, owing chiefly to inability to raise the lower lid. The tarsal muscles respond quickly to faradic and galvanic currents. The left corrugator supercilii, the compressor naris, the orbicularis oris, the lower lip depressors and the chin elevators act normally.

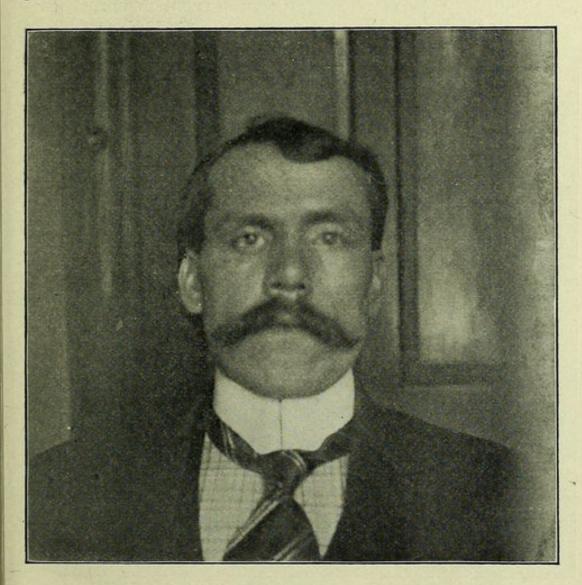


Fig. II.-Face at rest.

Owing to the above defects of the left facial muscles, the patient cannot wrinkle the forehead transversely on that side; the eye cannot be closed and the left nostril does not dilate in forced inspiration or on effort. The mouth is slightly drawn to the sound side, but his mustache conceals this defect quite well. He can elevate the left angle of the mouth almost as well as the right by the fairly competent zygomatici, but he cannot

"spread" the mouth laterally owing to absence of the risoreus.

In other words he can smile but not "grin."

The accompanying photographs, for which I am indebted to Dr. W. E. Schenck, show some of the above described conditions fairly well. He can frown, whistle, pout, puff out his cheeks, and roll his tongue into a gutter, but this gutter seems to be unequal on the two sides, "spreading open" towards the left. The platysma responds to volition normally and equally on the two sides. All movements of the lower lip

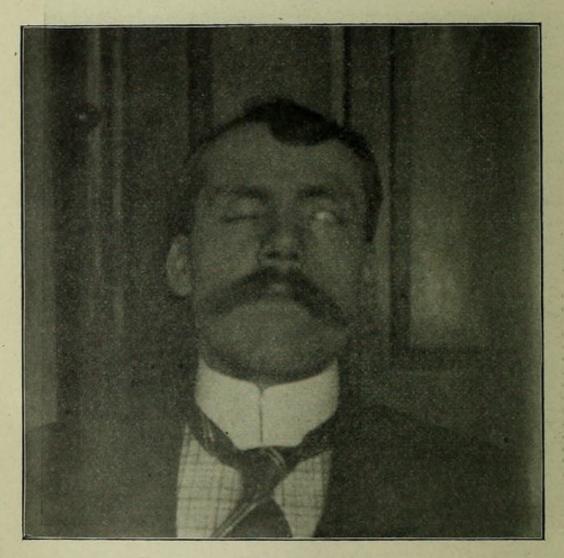


Fig. III.—Attempt to close both eyes.

and chin are balanced and perfect. On the right face there is no defect of action in the seventh nerve group. Contracture is absent on either side of the face. A flattening in the left infraorbital and supramaxillary region is apparently due to the absence of muscles elevating the upper lip.

By measurement, the left eyelids when approximated without effort, are separated by a space of seven-sixteenths of an inch at the widest part. Upon forcible effort this space can be reduced to four-sixteenths.

Experimentally, a course of electrical treatment (faradic, galvanic and sinusoidal, alternately) was given for a month, the ocular orbicularis and tarsal muscles being caused to contract intermittently for about five minutes daily or every other day. At the end of this period the approximation of the lids was reduced to nine-thirty-seconds of an inch ordinarily, and four-thirty-seconds on forcible effort. Coincident with this im-

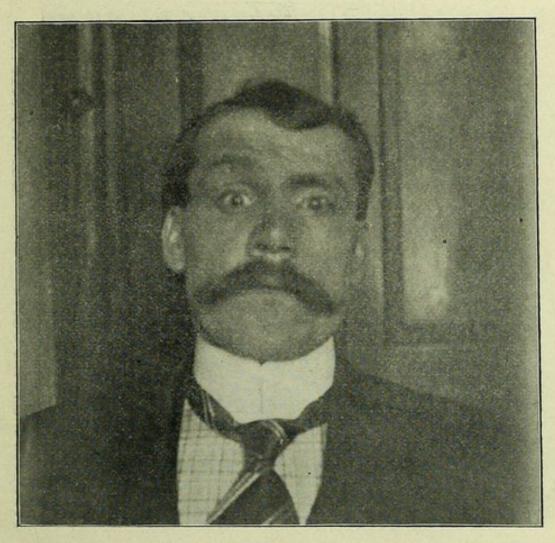


Fig. IV.—Attempt to elevate eyebrows.

provement a lessening of the conjunctival injection and a subjective sense of increased comfort in the eye were noted.

VIII. Hearing is good and equal in both ears, a watch tick

being heard at three feet or more.

IX. The palatal arch is higher on the left and the uvula slightly drawn to the left. The palatal reflex is active on both sides and the palate moves normally in phonation.

X. No lesion is evident in the pneumogastric distribution.

XI. The same is true of the spinal accessory.

XII. The tongue protrudes slightly to the right (the well side), but is freely movable in all directions. It presents a slight lateral longitudinal groove on the left, perhaps indicating slight atrophy; some slight fibrillary twitching is evident, more marked on the left side.

Trunk and extremities: Motion: No muscular weakness or atrophy. Gait and station normal. Grasp by dynamometer



Fig. V.—Frowning. Both corrugators act; the left less strongly than the right. The patient has also brought into action the sound occipito-frontalis, probably through a misunderstanding of what was wanted.

test, right 129, left 129 (normal about 80). Patient is right handed.

Sensation: No subjective sensory symptoms excepting more or less discomfort in left eye. No defects of tact, pain, temperature, posture or localization sense.

Reflexes: Organic: Normal.

Tendonous: Elbow-jerks, wrist-jerks and knee-jerks present, moderate and equal on the two sides.

Vaso-motor symptoms, aside from those presented by the ir-

ritable left conjunctiva are absent.

Trophic symptoms, excepting in the left face and tongue are not present.

The recent exhaustive review of the literature of congenital facial paralysis by Thomas¹ renders superfluous any reference to this aspect of the subject on my part. It may be noted, however, that of the five cases in the literature classed by Thomas as true congenital unilateral facial paralysis, only two (those of Bernhardt) are comparable with the present case. We may also quote that Bernhardt himself concludes that "although the occurrence of an isolated, unilateral, congenital facial paralysis, or, perhaps better, an incomplete development of the nerves and muscles in the distribution of the facial nerve on one side, cannot be denied, still, its occurrence has as yet not been definitely demonstrated."²

Hence, if the history of our present case be taken in lieu of actual medical observation at birth, it would seem that it is fairly entitled to rank as unique in etiology as well as in distribution.

DISCUSSION.

Dr. W. M. Leszynsky said he had recently had under his observation a patient in whom there had been facial paralysis involving all branches, and recovery had occurred in all the muscles, except the orbicularis palpebrarum, which is usually the first muscle to recover its motility. He thought that Dr. Langdon's case, if not of congenital origin, might be looked upon as one of those that had made a partial recovery. Several years ago Dr. Leszynsky reported two cases in which peripheral facial paralysis had existed for two years, and yet the faradic irritability was preserved in the paralyzed muscles.

Dr. H. M. Thomas believed that two cases had been reported in which the facial nerve was paralyzed during birth. This paralysis occurred in cases of normal delivery without the use of any instruments, and recovery occurred soon after birth.

2 Thomas, loc. cit., p. 583.

^{1&}quot;Congenital Facial Paralysis," by H. M. Thomas, M.D., Jour-NAL NERVOUS AND MENTAL DISEASE, August, 1898, p. 571.

The facial paralysis in Dr. Langdon's case might have been produced in like manner and recovery have been incomplete. His case was an extremely interesting one and the diagrams showed perfectly the affected muscles. Such a diagram was to Dr. Thomas an entirely new way of showing the paralysis.

Dr. Langdon said that a point of some interest to him was that the patient had been an attendant in asylums and had come in contact with a number of neurologists, as well as other physicians, and nobody seemed to have noticed that he had a facial paralysis of unusual type. The first time Dr. Langdon saw him he noticed that he did not close the eye, but could control the lower face movements pretty well. A feature of therapeutic interest that was not dwelt upon was the consideration of what might be done to relieve the patient. Dr. Langdon thought the ophthalmic fissure migh be narrowed so that the eye could be partially closed and thus saved from continual irritation, and he had consulted Dr. Robert Sattler, of Cincinnati, about narrowing the canthus in that way. It would require a narrowing of only about one-eighth inch, and if in addition the lower lid could be fixed a little higher on the cheek, the principal obstacle to closure of the eve would be removed.