Some Experiences in Direct Examination of the Larynx, Trachea and Œsophagus.

By Dr. Brown Kelly.

The author had found the method distinctly useful, especially in infants. He narrated a case of congenital laryngeal stridor in which the direct method of examination had shown the vibration of the summit of the arytænoids which originated the croaking sound, thus demonstrating the correctness of the views expressed by Sutherland and Lack some years ago.

He had operated by the direct method in removal of papillomata and nodules from the vocal cords, and had found tracheoscopy very useful. He had been successful in removing a haricot bean from the bifurcation of the trachea. The direct method of examination was also useful in those cases in which there was pain in the throat from no very obvious cause, for it was possible in some cases to show that this pain originated in malignant disease of the anterior wall of the œsophagus. He had also found it useful in the diagnosis of diverticula of the œsophagus.

Demonstration of the Methods of Direct Laryngoscopy, Bronchoscopy and Œsophagoscopy.

By Mr. E. B. Waggett.

(*To be continued.*)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Thirtieth Annual Meeting held at Montreal, May 11, 12, *and* 13, 1908.

(By courtesy of the *Medical Record.*)

Dr. Herbert S. Birkett, *of Montreal, President.*

(*Continued from p.* 452.)

Hyperplasia Lateralis Linguæ; Papillitis Atrophicans Bilateralis Linguæ.

Dr. Henry L. Wagner, of San Francisco, reported these two cases. The first was that of a man, aged forty, an inveterate cigarette smoker, with some dental defects and a narrowed lateral diameter of the lower jaw. There was a hyperplasia of the super-

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

ficial structures of the side of the tongue with similar pathological conditions of both lower turbinals. The patient particularly complained of a lancinating pain caused by a very small ulcer in the centre of the hyperplastic lingual tissue. A thorough extirpation of the area complained of relieved all symptoms. Microscopical examination of the tissue removed showed a true hyperplasia of all the layers of the mucosa.

The second case was that of a woman, aged fifty-four, with small whitish vesicles similar to herpes, on the left side of the tongue, recurring at regular intervals and accompanied by general malaise. A few days subsequent to each attack a subacute inflammation followed. Bilateral atrophy gradually set in, but a prolonged iodide treatment had prevented recurrence for nearly a year. The microscope showed a thinned but dense epithelial layer, a deeper layer corresponding to the rete mucosum, and a loose fibrous structure of the corium with almost complete obliteration of the secondary papillæ. Few mucous glands remained. No lump or nodule appeared in the tongue. The condition suggested, but for the atrophy, the parenchymatous hemiglossitis described by Butlin.

Dr. J. P. Clarke asked how Dr. Wagner would rule out pemphigus of the tongue as a possible diagnosis in his second case.

Dr. J. H. Bryan thought that one did not get atrophy with pemphigus in this situation.

Dr. J. W. Farlow had seen several cases of pemphigus of the mouth, but in that disease the eruption is bullous and not vesicular as in Dr. Wagner's case. He had not seen atrophy follow bullæ, and would not consider this case as one of pemphigus.

Dr. Wagner admitted that the examination made at the time of eruption did not coincide with all the desiderata for a diagnosis of pemphigus, and he had simply left this question open, being glad to have light thrown on the matter.

Sarcoma of the Tonsil.

Dr. J. Edwin Rhodes, of Chicago, reported a case in a man, aged thirty-five, whose symptoms had begun some six months previously with pain at the angle of the jaw. He had lost flesh, retained his appetite, but had some difficulty in swallowing on account of the size of the growth. Recently he had had attacks of dyspnœa, also slight bleeding from the mouth. No external glandular enlargement could be made out, but a growth ran from

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

the left tonsil two thirds of the way across the fauces. It was pinkish, lobulated, easily penetrated by a smooth flat probe and showed blood-vessels indistinctly over its surface. Removal was determined on and the external carotid artery was first tied on the left side, local anæsthesia being used. This was a difficult operation, as, in order to breathe, the patient had to keep his head flexed and chin lowered. Following this, cocaine and adrenalin were injected freely into the base of the tumour through the anterior pillar. The mass was gradually enucleated, but owing to the patient's retching it had to be removed in fragments in several attempts. Recovery was without incident except that a small ligature abscess occurred. The microscopist reported round-celled sarcoma of the alveolar type. One month after operation the patient had a small mass in a new site on the lateral wall of the pharynx behind the posterior pillar. No second operation was deemed immediately necessary, and as the patient was leaving for his home city he was advised to use the X-ray treatment and if possible to take the Coley toxins. He was reported as doing well, but in view of the laboratory findings Dr. Rhodes did not feel optimistic as to the eventual cure.

Dr. D. Bryson Delavan, of New York, referred to the starvation treatment of such growths as elaborated by Dawbarn. It was quite possible that ligation of the carotid would be an advisable procedure before the extirpation of such tumours as the one described by Dr. Rhodes. Even if it did not result in cure we would still have the alternative of the more extensive operation.

Dr. Rhodes replied that he would not expect much from such a procedure as ligation of the carotid, as owing to the quick re-establishment of the collateral circulation the inhibition of the growth would not result. The call for immediate operation in his own case was on account of the size of the tumour.

Dr. B. Alex. Randall, of Philadelphia, had noted in a ligation, such as that described by Dr. Rhodes, entire absence of pulsation in the temporal artery for sixteen days. This would give some idea as to the time required for the re-establishment of collateral circulation.

The Influence of Adrenalin in the Causation of Arterio-sclerosis.

Dr. Frederic E. Hopkins, of Springfield, Mass., gave a review of the literature of the last four years. He found that the unreliability of animal experimentation vitiated many of the conclusions drawn as to the deleterious effects of the remedy on the vascular

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

system. Moreover, it has been shown that large doses could be given continuously to patients without causing arterio-sclerosis. He therefore felt that there was ample ground for re-assurance in the reasonable use of the remedy.

Dr. C. F. THEISEN, of Albany, said that recent experiments had shown that atheroma of the vessels was usual only when the adrenalin was injected intra-venously.

Dr. HARRIS P. MOSHER had made some experiments on guinea-pigs, but in no instance did adrenalin, applied to mucous membranes in the nose, have any effect on the aorta.

Dr. B. ALEX. RANDALL, of Philadelphia, had used adrenalin with benefit on cases of exophthalmic goitre and in otitic vertigo. He had never seen any result on the vessels. He preferred, for the conditions named, the desiccated adrenals in doses of two or three grains, using the adrenalin chloride only as an emergency preparation which could be taken instantly at the first threat of trouble.

Recurrent and Abductor Paralysis.

In the symposium on this subject Dr. J. W. GLEITSMANN, of New York, read a paper on the Ætiology from Central Causes; Dr. D. BRYSON DELAVAN, of New York, one on the Ætiology from Peripheral Causes; Dr. CLARENCE C. RICE, of New York, a paper on the Symptomatology; and Dr. W. E. CASSELBERRY, of Chicago, one on the Diagnosis and Treatment, of which the following are abstracts:

The first paper was by Dr. J. W. GLEITSMANN, of New York City, who made some introductory remarks on the anatomy and physiology of the parts involved, and then took up the matter of ætiology from lesions of central origin. According to the location and nature of the disease, we can distinguish paralysis due to cortical lesions, disturbances of the nerve tract in the internal capsule between cortex and bulbus, bulbar processes, syphilis, tumours, exostoses at the cranial base pressing on the pneumogastric, spinal disease, and final paralysis of the Avellis and Hughlings Jackson type. As to paralyses due to cortical lesions we are on a much-debated ground. The trouble arises from the fact that even in autopsies the bulbus is not always examined, so that the presence of a cortical lesion does not exclude a bulbar involvement in addition. In the author's view there are at the present time but few observers who believe in an unilateral laryngeal paralysis brought about by unilateral cerebral disease. Laryngeal movements can be excited by each of the two cortical

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

centres independently of the loss or destruction of one of them. Furthermore, experimental extirpation of the hemispheres down to the fourth ventricle does not interfere with the respiratory movements of the cords, the integral function of the abductor. Progressive bulbar paralysis being due to a degeneration of the motor nuclei in the medulla represents a genuine type of the bulbar origin of laryngeal paralysis. As a rule, paralysis of other organs—tongue, lips, etc.—precedes laryngeal symptoms. The laryngeal picture will vary according to the focus and intensity of the process. Another bulbar affection is that caused by hæmorrhage of this region, thrombosis with subsequent softening or embolism of the vertebral or basilar arteries. In meningitis we rarely have laryngeal paralysis. So also it is rare in multiple cerebro-spinal meningitis. Syphilis of the brain may cause paralysis limited to the larynx. Tumours at the base generally cause laryngeal trouble by pneumogastric pressure. In locomotor ataxy abductor paralysis is the prevailing type. So also laryngeal paralysis has been noted in amyotrophic lateral sclerosis and acute spinal lepto-meningitis, syringomyelia and progressive muscular atrophy. Avellis drew attention to the occurrence of simultaneous unilateral paralysis of the larynx and soft palate. In another form the muscles of the neck are also paralysed. Hughlings Jackson called attention to associated paralysis of the pharynx, larynx and tongue.

Second Paper.—The Ætiology of Paralysis from Peripheral Causes was discussed by Dr. D. Bryson Delavan, of New York. He made three general groups of cases: (1) Those due to trauma; (2) those due to mechanical pressure on the nerve; and (3) those due to some toxæmia, either from a poisonous substance taken into the body or from disease. The trauma would include gunshot and incised wounds of the neck, injuries arising from surgical operations, and foreign bodies in the larynx or neighbouring regions with unsuccessful attempts at removal. Mechanical pressure may be caused by disease of the glands or lymph nodes, tumours, aneurysms, diseases of the heart or pleura, and scoliosis. Thyroid enlargement is a very common cause, but the size of this organ seems to have little effect on, or relation to, the amount of danger inflicted on the recurrent nerves. Large ones may give no trouble; small ones may cause death. In the author's experience aortic aneurysm has been the most frequent cause of left paralysis. From its position with regard to the apex of the right lung the right recurrent may be pressed on under certain pulmonary condi-

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

tions. Some cases which have been ascribed to pressure in abnormal thoracic conditions may have been due to the severe inflammatory conditions rather than to simple mechanical pressure. By far the most interesting group of cases is the third, viz. that due to toxæmias. About these we know but comparatively little. Drugs and infectious diseases may both thus act. There may be a peculiar and distinct vulnerability of the recurrents to toxic effects. Of mineral and vegetable poisons mention was made of lead, arsenic, antimony, copper, iodide of potash, iodoform and perhaps cyanide of potash and phosphorus. Of vegetable poisons, mention was made of alcohol, opium, belladonna, cannabis indica, and cocaine. The list of infectious diseases comprised typhoid fever, acute rheumatism, influenza, diphtheria, typhus, pneumonia, puerperal fever, erysipelas, measles, scarlet fever, gonorrhœa, and serum therapy. Our future knowledge along this line must come from a consideration of, and an answer to, the following propositions: (1) Is there any truth in the supposition that there is a selective affinity existing in these particular nerves (recurrents) in favour of certain particular drugs through the influence of which the one exercises an inhibitory effect upon the other? (2) Does the drug produce changes in the nerve tissue itself which result in the loss of its activity? (3) Is the lesion a neuritis, induced by pressure of congestion of neighbouring parts or by other causes? and (4) Are the effects on the nerve due to central causes, the latter induced by the drug? The "affinity" doctrine seems to be contradicted by the fact that the cases are generally unilateral, not bilateral. The same objection applies to (4). In regard to pressure, it seems probable that this is the mode of action in many instances. The writer was not inclined to place absolute reliance on the recent statistics of Sendziak, as references were not given and his statements could not be verified, nor could the articles from which he derived his material be studied.

Symptomatology.—The third paper was read by Dr. Clarence C. Rice, of New York City, on Symptomatology. The author set forth the clinical phenomena present in paralysis of the several muscles and muscular groups, taking up first the symptoms, laryngeal and general, of the several temporary disturbances in the efficiency of the laryngeal muscles, not caused by pathological conditions of the nerve-centres, but by injuries inflicted either on the peripheral nerve-filaments or upon the muscular tissue itself, and second, the symptomatology of paralysis of the large adductor

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

or abductor of the vocal cords and of total paralysis of the recurrent nerve. He called attention to the vast amount of literature on this topic, much of it confusing rather than illuminating, and therefore would write from his own experience. The whole question was complicated by the occurrence of spasm in various muscles, so that the detection of paralysis from spasm of opposing muscles was often difficult. The form of paralysis most frequently observed by the laryngologist was that in which all the muscles supplied by the recurrent nerve were affected. The band or bands were in the cadaveric position, and respiration was but little affected during rest. In unilateral cases the speaking voice steadily improved and the sound cord was able to go a longer distance, but at first the voice was lower pitched and uncertain. It became easily tired and the patients dreaded to use it because of breaks in pitch. In bilateral cases there could be no marked dyspnœa, but the voice was lost or was very breathy and uncertain, and because of non-approximation of the false cords the pitch in coughing was lowered and husky. The most frequent cause of such cases was intra-thoracic pressure, or pressure in the upper cervical region. The author also called attention to the difficulty of diagnosis between the forms of paralysis and immobility of one cord by reason of an ankylosed crico-arytænoid joint. As a rule this joint, when affected, showed signs of inflammation, but there might be degenerative changes which did not affect the gross appearances of these cartilages. In unilateral ankylosis the sound arytænoid was only drawn up to, and not in front of, the disabled one, and also in ankylosis the cord was not in any known paralytic position, neither abduction, adduction, nor the cadaveric position. Theoretically, in non-paralytic conditions the cords were tense, while in paralysis they were limp.

Diagnosis and Treatment.—The final paper in the symposium was read by Dr. W. E. Casselberry, of Chicago. He grouped cases under the headings aneurysmal, pleuritic, tumour, centric bulbar abductor, and central cortical. The author described the typical laryngeal picture under these headings, and then discussed some of the variations met with in his own experience or described in literature. In aneurysm we found the cord motionless in the cadaveric position, while its arytænoid was collapsed forward, which sank the cord a little below the plane of its fellow. In phonation the cord might twitch a little, but did not straighten. The sound arytænoid might cross a trifle, usually in front of, but possibly

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

behind, the paralysed one, while the healthy cord came nearly but not quite to the paralysed one. The collective presence of these features, rather than the mere cadaveric position of the cord, insured the fact of a complete recurrent nerve paralysis. Occasionally a co-existing swelling of the arytænoid was found which was liable to disguise its paralytic effect, and to simulate a crico-arytænoid ankylosis with fixation of the cord. In the forty cases on which the author's study was based, the left recurrent nerve was paralysed by an aneurysm in eight and the right nerve in six. In such cases we should endeavour to control local inflammation, avoid over-use of the voice, and give iodides. Of the pleuritic cases four were found in the group of forty. All were tuberculous. In all the right cord was affected. The tumour group comprised eight cases. Sometimes the ventricular band was hypertrophied, and almost covered the paralysed cord. Nature put forth this compensatory effort in order to endeavour to preserve the voice. Of the eight cases in this group voice impairment was a late feature. In very rare instances a "lazy cord" was the first intimation of laryngeal malignancy. The bulbar abductor paralysis group also comprised eight cases. The mere fact of symmetry in persistent abductor paralysis was indicative of a bulbar lesion. The flaccid cords flapped up and down, but did not separate. In the unilateral type, and also in the stage of intermittent stridor, we must recognise the possibility of an overpowering spasm of the opposing adductor muscles. A paralytic immobility was liable to lead into a sort of ankylosis of the joints, and the author had described a symmetrical ankylosis without much tumefaction, under the name of "arthritic deformans of the larynx." In this group we should push mercury and the iodides vigorously in the presence of even a remote suspicion of syphilis. In four of the author's cases tracheotomy was ultimately necessary. The cortical group comprises six cases. Laryngeal paresis could, of course, ensue from organic cortical lesions which affected the brain centres of both sides. In none of the author's cases was there any typical image of paralysis. In one the cord was nearly motionless in the cadaveric position; in two there was incomplete bilateral paresis, which predominated on the side on which the arm and leg were also affected. In this sub-group the predominating features were enfeeblement of pharyngeal muscles, impairment of articulation or aphasia. The others of the group were persons in advanced years with cerebral degeneration, the paresis of the cords being the cause only in part of the difficulty in speaking.

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

Dr. E. Fletcher Ingals said he had found some difficulty in making a diagnosis of aneurysm in this form of paralysis in so far as the X-ray plate was concerned. He had noted invariably on the plates a darkened area just at the left side of the œsophagus due presumably to the large arteries. In two instances he had seen distinctly a small tumour just at the left side. He had thought that these swellings might be small aneurysms, but the autopsy in one case had failed to show any such condition. He would like to inquire of those present if they had had any such experience.

Dr. G. Hudson Makuen said the interesting point was to determine the exact location of the lesion causing the paralysis. Three possible locations had been suggested in the papers presented: (1) In connection with peripheral organs, (2) in the medulla, and (3) in the cerebral cortex. He was sceptical in regard to the last named, for he did not recall an authentic case of abductor or adductor paralysis due to cortical disease. The fact that stimulation of the cortical centres would cause to-and-fro movements of the cords did not prove to his mind that a lesion in such a centre would cause true cord paralysis. It merely meant that stimulation of those cortical segments might incite the bulbar motor centres to action and thus cause the to-and-fro movements. In over two thousand cases of patients with gross defects of speech he recalled only one paralysis of a bulbar origin, and it was a case of unilateral abductor paralysis.

Dr. B. Alex. Randall had had under observation a man with total cord paralysis from a cortical tumour, the removal of which had been successfully accomplished, but as yet with only slight return of power in the cord. A more perfect demonstration of a cortical lesion as the cause of the paralysis could hardly be seen.

Dr. H. L. Swain had seen three cases with inspiratory dyspnœa due to paralysis of the abductor muscles, but in all a local lesion had been found. In two it was a syphilitic immobilisation of the crico-arytænoid joint, and in one, which eventually came to autopsy, it was due to a complete necrosis of the cricoid cartilage.

Dr. J. O. Roe referred to a case of laryngeal paralysis due to a fusiform enlargement of the aortic arch. He had seen a number of cases of left-side paralysis due to tuberculous deposit at the pulmonary apex.

Dr. C. P. Grayson referred to a case under his care during the past winter, that of a man with dyspnœa and noisy stridor. Examination by every known method was without result as to the discovery of a cause, but the dyspnœa became so great that a

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

tracheotomy was called for. Later it was learned that he had had two or three attacks of peritonsillitis the year previous. Whether such a lesion might be the cause of a peripheral neuritis or not he could not say. The lesion in the larynx was a double abductor paralysis which might have resulted from a toxic neuritis in connection with the quinsies.

Dr. C. F. THEISEN said that the X ray was often of no service so far as a conclusion as to the cause for compression of the recurrent was concerned. In one instance sudden death had resulted from compression not only of this nerve but also of the pneumogastric in a mass of enlarged glands, although the diagnosis of aortic aneurysm had been made.

Dr. GLEITSMANN, in closing, wished to point out certain interesting facts. It was highly desirable that we should be more definite in our expressions and discussions when referring to laryngeal paralysis. As to the existence of cortical paralysis he would say that bilateral abductor paralysis in hysteria, etc., was of the cortical type. He agreed that the presence of a recurrent or abductor paralysis did not in many cases assist us in the diagnosis of the lesion which produced it. Patients might recover from laryngeal paralysis, though this was very uncommon. Of recovery from bilateral recurrent paralysis, but one case was known. Here the paralysis had been caused by large pericardial exudates on both recurrent nerves and had disappeared with the absorption of the fluid.

Dr. DELAVAN stated, in closing, that very few of us realised the varieties of causes which might produce this form of paralysis by pressure. Aneurysm was always thought of, but other possible causes were overlooked. The X-ray had proved of very great value, and no obscure case should be dismissed without recourse to it. Cricoid ankylosis was often mistaken for paralysis.

Dr. CASSELBERRY believed that the larynx had been neglected of late years, and that such discussions as the one now taking place were of the utmost benefit. He was disposed to place high value on the X-ray picture as an aid in the diagnosis of aneurysm. When one saw a projection on the plate and a pulsation with the fluoroscope a diagnosis was reasonably positive. As to diagnosis *intra vitam* of degeneration inside of the medulla we could only make it by observing similar cases which ultimately came to *post mortem*, and in which degenerated areas were found in this particular place. He was opposed to intubation in cases of abductor paralysis, because he thought it was dangerous to teach the patient to rely

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press

upon the tube. If the tube was expelled the patient might die before it could be re-inserted. Cures reported of laryngeal paralysis might be cures of only ankylosis.

Abstracts.

PHARYNX.

Goodale, J. L.—*The Local Treatment of Acute Inflammations of the Throat from the Standpoint of Pathology.* "Boston Med. and Surg. Journ.," June 25, 1908.

In this paper are presented the results of an examination into the effects of local applications upon infectious processes of the tonsils and pharynx. The histological phenomena of acute tonsillitis are reviewed, and forty cases examined and treated by various antiseptic preparations considered. The results are thus summarised: (1) Acute tonsillitis in the early stage before the appearance of white spots or systemic depression was apparently aborted in some instances by local antiseptics. (2) In some cases acute tonsillitis, when seen early, was apparently checked by local antiseptics, but inflammation appeared in neighbouring organs and seemed to be of protracted duration. (3) Where systemic disturbance exists and white spots are present in the lacunæ, no checking of the inflammatory process was observed from the application of antiseptics. (4) The introduction of antiseptics into the crypts was followed by a heightening of the local inflammatory process, and in some cases by increased systemic absorption The author also gives results of a series of experiments as to the possibility of sterilising the mouth for a given micro-organism. Twenty cases of diphtheria were taken, and the antiseptics used were peroxide of hydrogen, carbolic acid, and creolin. These experiments proved that it is possible to completely remove a given micro-organism from the mouth by chemical antiseptics.

Macleod Yearsley.

NOSE.

Sluder, G.—*The Rôle of the Spheno-palatine Ganglion in Nasal Headaches.* "New York Med. Journ.," May 23, 1908.

Attention is called to a type of headache which is irregular in the time of appearance and irregular in the part of the head involved. Sometimes the pain may be referred to the eyes, nose, teeth, or jaw. Often these irregular pains have followed some high-grade inflammatory troubles in the posterior ethmoidal and sphenoidal sinuses. Sluder offers the ingenious explanation that the spheno-palatine (Meckel's) ganglion has been involved in the inflammatory process. In some cases the use of cocaine just over the ganglion relieves the symptoms immediately. The application of silver or formaldehyde in weak solutions either cured or helped the pain. None of the cases were of sufficient severity to warrant operation.

Macleod Yearsley.

https://doi.org/10.1017/S1755146300181624 Published online by Cambridge University Press