nasal route depended not so much on how long the purulent process had lasted as upon the character of the lining mucosa. If degenerated and filled with polypi intra-nasal treatment would probably fail. In otherwise uncomplicated primary purulent inflammation of the antrum of nasal origin, nasal treatment, provided the opening through the naso-antral wall were large enough, should be successful.

The PRESIDENT considered that the debate showed that the true attitude was one of eclecticism in the selection of pure rhinological or external methods. He was himself in favour of the treatment of rhinological conditions by rhinological methods, but this principle should not be pushed too far. He thought the difficulty expressed by Dr. Logan Turner was met by explaining to the patient that the less radical operation might require to be followed by the more radical one. He (the President) had more than once had occasion to wish he had operated more radically, but he was sure he had in many instances been able by intra-nasal methods to obviate the necessity for external operation. He saw signs of a growing tendency towards the rhinological methods. He reminded the Section of the certain damage to the teeth in children in opening the antrum freely by the canine fossa. He exhibited some curved bougies for the dilatation of the infundibulum which, combined with the use of Sondermann's suction apparatus (also exhibited), he had found of value in the treatment of frontal sinusitis.

### REPLY.

Dr. PERRY GOLDSMITH, in reply, said that the method of exclusion referred to by Dr. Tilley might fail in those cases in which the frontal sinus had emptied itself shortly before examination. He thought they should be sure that sinus mischief did not demand immediate attention before they did any major operation on the septum.

## TWO CASES OF ABDUCTOR PARALYSIS.[1]

BY GEORGE L. RICHARDS, M.D.,
Fall River, Massachusetts.

CASES of abductor paralysis are of sufficient rarity to warrant the reporting of each one, so that whatever light the individual case may possibly throw on the general subject may be at the command of laryngologists in general. Like very much of the material reported in medical literature, my cases are more or less incomplete so far as their etiology is concerned, nor can I give their accurate pathology. One of them, at least, is somewhat unusual as regards the age of the patient. I have made no systematic search of the literature, but in a paper by Wilson, published in the *Laryngoscope*

[1] Communicated to the Section of Laryngology and Otology, at the Annual Meeting of the British Medical Association, held in Toronto, August, 1906

of September, 1900, he refers to some eighty-eight cases which he has found in literature, and some thirty which had been reported to him by letter, making a total of 118 up to that time. The history of these cases shows that the mortality is very great and that measures for relief, other than tracheotomy, appear to have been futile, although cases are reported in which the electrical treatment has seemed to have done a certain amount of good.

The recurrent nerve is peculiar in that it contains both abductor and adductor fibres. The abductor fibres seem to be fewer in number, and relatively weaker than the adductor; and in the presence of trouble with the abductors, the adductor fibres seem, if anything, to get more strength.

(1) My first case was an unmarried woman, aged forty, a cotton mill operative, who consulted me on January 24, 1903, with a history of a cough since the preceding May. The cough was a peculiar, sharp, barking one, coming almost paroxysmally, and accompanied by but little secretion. On examining the larynx the cords were found to be in active motion, and during the latter part of each inspiration came together until they almost met in the centre line. The respiration was stridulous in character, and the case seemed to be one of partial abductor paralysis. Electricity was used, and remedies for the cough, with apparently a little improvement, and on February 3 examination seemed to show that the degree of adduction was hardly sufficient for true abductor paralysis. Ten days later the paresis became more evident and at that time seemed to admit of no doubt whatever as to its being a case of double abductor paralysis. During expiration the glottis widely opened, but before the inspiration was half through the cords came together so as to almost entirely close up the chink. Five days later the dyspnœa had increased to such an extent and the breathing was so laboured that there was imminent danger of suffocation. The cords at this time were found to come so absolutely together toward the end of inspiration that only the narrowest chink was left. Tracheotomy was performed with relief of the difficulty in breathing, but the bronchitis, which had been co-existent, seemed to increase in severity, and five or six days after the tracheotomy was performed purulent broncho-pneumonia supervened, with resulting death.

No autopsy was permitted, so that it is impossible to say what the true lesion was and whether it was central in character or not. It has always seemed to me that it was probably central in character.

(2) My second case is the more unusual, because it occurred in a child, a little girl, aged two and a half, who had never had any sickness excepting measles. On April 19 of this year, while playing, a large rooster knocked her down and picked her on the mouth. She was frightened and ran home crying. That evening, while eating fish, she started to cry and then lost her voice for the moment and could not speak. After that she talked hoarsely. The same night breathing became difficult. She was at times a little better, but never complained of any pain; deglutition was normal, and the voice almost so. Six days later I made an examination with the finger, but found nothing suggestive of a foreign body. The

child seemed suffering from inspiratory dyspnœa. Some three weeks later the child was brought to my office with the history that she had kept on playing, for the most part talking rather low and with the lips, but loudly whenever frightened or when she saw anything strange. She had been taken out of doors one windy day about two weeks previous, and ever since had breathed harder and harder. She had eaten very little for the last two weeks. Although previously a healthy child, she was now very much emaciated and every inspiration was dyspnœic in character. Attempts to get a good view of the cords failing, she was given chloroform to complete anæsthesia. Inspiration then showed both cords to come sharply together at the beginning of inspiration and to remain in this position, there being nothing but the very narrowest chink just in front of the arytenoid cartilages. As the child was somewhat cyanosed and the dyspnœa very urgent, she was taken at once to the Union Hospital and tracheotomy performed on June 1. Since then she has grown fat. She has breathed continually through the tracheotomy tube, and whenever it is removed the attacks of dyspnœa seem just as before. The cry is harsh with the tube removed, but the child cannot be induced to attempt to talk except in a whisper.

On August 17 she was examined at the Throat Department of the Massachusetts General Hospital in Boston by Dr. D. Crosby Greene, jun., who confirmed the diagnosis of double abductor paralysis. The sudden onset of the attack, the freedom of respiration since, the absence of marked hoarseness, to our mind absolutely rules papilloma out of question.[1]

As to treatment, it seems to me that strychnine, arsenic, electricity, etc., may be used, but it is a question whether they will do much, if any, good. I have tried faradism and strychnine, but as yet they are of no avail. I shall try other remedies, but it is probable that the condition will last for a varying length of time. I have hopes that eventually, with the growth and development of the child, the conditions demanding tracheotomy will entirely disappear and recovery take place.

The etiology here is somewhat curious. A succession of frights seems to be the real cause, as I do not think that at any time there was anything suggestive of a foreign body, although the coughing following the eating of fish is always suggestive of a fish-bone. What the pathology here is I am unable to state. It would seem to me to be central in nature rather than peripheral, and to be one of those inexplainable conditions in which, through the influence of the central nervous system, distinct interference in function of parts supplied by peripheral nerves takes place.

### Discussion.

Dr. Chevalier Jackson (Pittsburg, Pennsylvania) said that he had two cases still under observation, both men in middle life, who were tracheotomised two and six years ago respectively. Both had been gone over by internists and neurologists, but absolutely no lesion could be

[1] A further note on this case will appear in our next issue.

located. He further referred to some blood-pressure work done on his cases by Dr. John W. Boyce, which demonstrated that manipulation of the upper end of the œsophagus, as in bronchoscopy, was associated with profound shock. This should be forestalled. Further, he had found that general anæsthesia in abductor paralysis usually ended in a stabbing tracheotomy. In his opinion it was better to do a preliminary tracheotomy under local anæsthesia.

## A DISCUSSION ON THE INDICATIONS FOR THE LIGATION OF THE INTERNAL JUGULAR VEIN IN OTITIC PYÆMIA.[1]

### Introductory Paper.

By Hugh E. Jones, M.R.C.S., L.R.C.P.,
Honorary Surgeon Liverpool Eye and Ear Infirmary, Ophthalmic and Aural Surgeon to the Royal Albert Edward Infirmary, Wigan, and to the St. Helen's Hospital.

When our President asked me to open this discussion, I accepted the invitation with very mixed feelings. While deeply grateful to you, sir, for the honour you conferred upon me, I was conscious of the difficulty of the task which that honour carried with it. When I thought of all the papers that had been written on the subject and the many great names associated with it, I found it difficult to imagine that my small experience could add to the general knowledge anything worthy of the occasion. The fact that you, sir, had recently read a most thoughtful and critical paper before the Otological Society of the United Kingdom—a paper in which you stated lucidly and temperately the case against ligation of the internal jugular vein—in one way added to my difficulties, but in another way had been a great help to me. To a certain extent and in one sense I have taken that paper as my text, or—shall I say—as the lesson for the day. It has been the habit of many writers almost to ignore the arguments advanced by Macewen, Brieger, and others against wholesale ligation of the vein, but however strongly one may adhere to the principles laid down by Zaufal, Horsley, and Ballance, the facts as marshalled in your paper compel our attention and your conclusions call for our careful consideration.

### Scope of the Discussion.

In the great majority of cases otitic pyæmia (and I take the

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