the posterior wall was held back by means of a curved probe and the air passed in easily and without stridor. If a short tracheal tube (child's size) were inserted just within the entrance of the larynx, all noise at once ceased, the glottis appearing quite normal, and showing no sign of spasm or paralysis of the vocal cords. Pushing the tube further, the trachea was found unaffected in all, and there was no encroachment on its lumen, so that the influence of an enlarged thymus must be regarded as accidental and no part of the classical affection.

With expiration the parts resumed their natural upright position, and at the end of that act the larynx had the

Fig. 1.—To show upright position of posterior wall, in normal larynx.

Fig. 2.—To show folding for wards and downwards of posterior wall in congenital laryngeal stridor.

appearance of the slightly accentuated infantile type. A slight incurving of the epiglottis persisted; this, however, could be readily unfolded by means of a probe, and with the same instrument the aryepiglottic folds and the posterior wall could be felt lax and mobile. Beyond that no sign of malformation was present. Fig. 3 represents the aperture of the larynx during expiration, and Fig. 4 the same part during inspiration.

In two cases where the posterior wall looked slightly oedematous, and flapped with great freedom, I tried the effect of adrenalin as an astringent, applying it on a cotton-wool carrier. The resulting shrinkage led for the time to some improvement in the stridor. In the very marked cases it was necessary during recovery from the anaesthetic, in order to relieve the stridor, to place the patient on the side and hold the tongue out firmly until the child was awake. The effect of this procedure, as observed through the tube, was to give a pull on the aryepiglottic folds and prevent their too close approximation.

In all the children there was a definite history that the

Fig. 3.—Appearance of aperture of larynx during expiration.

Fig. 4.—Appearance of aperture of larynx during inspiration.

noisy breathing was worse during "colds." This was very noticeable in a boy whom I saw first of all when he was nine months old. Spells of comparative freedom alternated with severe relapses associated with wheezing in the chest. As moderate-sized adenoids were present, which seemed to keep up the catarrhal state, I removed them when the child was two years old. In three days the breathing was almost normal, and a rapid recovery took place.

In another child, the stridor became much worse after a series of fits when three months old.

The following conclusions may be drawn from these observations:

1. There is no malformation beyond an exaggeration of the natural incurving of the infantile epiglottis which can be easily unrolled by the probe.
2. There is no evidence of abnormal breathing, as suggested by Thomson and Turner. In deep anaesthesia the breathing is regular and the stridor very marked.
3. Stridor takes place at the entrance of the larynx by the vibration of the soft structures on the posterior wall. The vocal cords take no part in its production and compression of the trachea by an enlarged thymus is no essential element.

4. Variation in stridor is often due to the relative position of the tongue. It is also affected by catarrhal states of the respiratory tract, and probably by conditions of the general health.

REFERENCE.

¹ *Traité des Maladies de l'Enfance*, Tome III, Deuxième édition.

NOTES ON AN UNUSUAL CASE OF PAPILLOMA OF THE LARYNX IN A CHILD TREATED BY THE LOCAL APPLICATION OF FORMALIN.

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X., a boy, aged 10, was perfectly well up to Whit Sunday, 1905, when he fell asleep on the wet grass and caught a severe cold, which kept him in bed for a few days. He was very hoarse. The cold soon disappeared, but the hoarseness continued, and did not yield to ordinary local treatment. The tonsils and some adenoids were removed in August, 1905.

I first saw the boy in February, 1906. He had been hoarse for nearly a year, but during the last few weeks had been much worse, and had had several attacks of spasm of the glottis. The vocal cords were practically normal; there was a large, irregular pedunculated tumour which grew from below the anterior commissure, and occasionally protruded between the vocal cords on phonation and expiration. I removed the greater part of the growth with forceps, and the voice improved considerably for some time. The hoarseness then returned more marked than before. When I saw him again in May there were numerous small papillomata growing on the vocal cords. I removed these twice with the forceps, but they recurred. After a third operation I prescribed a formalin spray, 1 in 100. There was no recurrence of the papillomata, and in three weeks the vocal cords were, apart from a slight irregular hypertrophy, normal, and have remained so ever since. The subglottic growth had slightly increased in size, and was again partly removed by forceps. I saw the boy last in September. The larynx was practically normal, with the exception of a small growth below the anterior commissure. He is still using the formalin spray (1 in 50) a few times a week.

The case is interesting and instructive from several points of view:

1. The sudden growth of the papilloma, probably after an acute attack of laryngitis. Thrasher¹ records a case of papillomata of the larynx after inhalation of flames.
2. The initial growth was large, pedunculated, not multiple, and situated below the vocal cords, and not on the cords, as in most cases.
3. The papillomata on the cords only appeared after the use of the forceps. Was this due to traumatism and infection?
4. After the local application of formalin there was no recurrence.

Some years ago I published a case of papillomata of the larynx in an adult in which the growths recurred several times after removal by forceps, but did not recur after the use of a formalin spray. I have failed to find any record of similar cases which have been treated by formalin. We know how difficult it is to prevent recurrence of laryngeal papillomata in children, and how they seem to grow more rapidly after any operative interference by forceps, or by thyrotomy. The most successful method of treating these cases is by tracheotomy. But this is attended by many obvious disadvantages and dangers. If formalin prevents the recurrence of laryngeal papillomata after their removal by forceps, no surgical interference will ever become necessary.

REFERENCE.

¹ *Journal of Laryngology*, September, 1906.

UNDER the will of the late Mr. Harry Lewis Saltarn, of Lyndhurst, it is directed that one-fifth of the residue of his estate shall be paid to the Manchester Royal Infirmary; one-fifth to the Royal South Hants and Southampton Hospital; one-tenth to the Manchester Eye Hospital, and one-tenth to the Southampton Eye Hospital. The sum eventually to be divided would appear to be about £25,000.