

that a considerable number of cases of diphtheria do, to all appearance at least, date their origin from exposure to cold and wet. I have seen several solitary cases of true diphtheria thus originating; not spreading, or spreading, to other persons in the house, as the case may be. So my opinion has undergone some modification, and I am inclined now to the belief that there is no such disease as idiopathic, simple, membranous inflammation of the larynx. I say I am inclined to this belief. I am not sure that it is true; but as I formerly thought that the weight of evidence was in favour of their non-identity, I am now inclined, from my further experience, to think that the two diseases are really identical, that the so-called croup is really diphtheria.

Membranous inflammation of the larynx is one of the gravest diseases; it kills rapidly. If the termination be fatal it usually is so within a few days from the outset; rarely does the disease last a week, supposing that the windpipe has not been opened. The disease is usually preceded by uneasiness in the pharynx, sometimes by well-marked evidences of diphtheria; often, however, the pharyngeal symptoms are trifling, and the gravity of the illness is only appreciated when the child wakes in the night with croupy breathing—that is, with rough, hoarse, loud, lengthened respiration. The difficulty of inspiration is due to two causes. At first it is due to the swollen condition of the mucous membrane, and also largely to the superadded spasm. Subsequently it is due to the false membrane narrowing the passage, and also largely to the superadded spasm. The paroxysms of difficulty of inspiration from which the patient suffers are due to the spasm. The disease is attended by a certain amount of febrile disturbance, and there is a little uneasiness in the larynx, perhaps some pain and tenderness. The lymphatic glands adjacent to the larynx are commonly enlarged and tender. (They require to be felt for.) There is hoarse, rough cough, with expectoration of at first a little glairy mucus, and subsequently pieces of false membrane—that is, of tough lymph.

To avert death in cases of membranous exudation into the larynx we open either the larynx or the trachea; the trachea in a child; the larynx in an adult. We select the larynx in an adult because of the facility with which it is reached. We are driven to open the trachea in a child because the larynx is too small to admit the tube. The opening into the windpipe still further interferes with the power of coughing. The patient in croup is, as I have said, unable to close his larynx well; still he can close it to a certain degree, and he is able to cough to that degree. The tube of course he is unable to close, and hence acrid matters about the tube are more liable to be drawn downwards, and therefore to become impacted in the lung, to produce pneumonia, and, in their passage downwards—so acrid is the matter—to produce bronchitis. It must be remembered that the inflammation extends downwards, not merely because the inflammation itself has a tendency to spread, but because the matter thrown out

is acrid, and has a tendency to produce inflammation, which, in the constitutional state of the patient, will be a membranous inflammation. Thus, in some cases of diphtheria, the ear is the seat of membranous inflammation, and acrid matter as well as lymph is poured out. It runs down the outer side of the ear. As it passes down it excites inflammation, and the inflamed surface becomes covered with a false membrane. That this false membrane is not the result merely of extension of the inflammation is probable from the fact that if a blister is applied to a person suffering from diphtheria, the raw surface frequently becomes covered with lymph, with a false membrane, with a diphtheritic exudation. You will thus understand that the fluid exuded is an irritant; that this irritant produces inflammation; that the inflammation in the constitutional condition is attended with an exudation of lymph. It is a specific inflammation, because the person is suffering from a specific disease, just as when a person is the subject of constitutional syphilis, the local inflammations assume frequently a syphilitic character, or in the subject of cancer, local injury may cause changes of texture cancerous in nature.

This leads me to a point of some practical importance in regard to tracheotomy. It is commonly stated that the bronchitis which so frequently follows tracheotomy in diphtheria is the result of the entrance of the cold air through the tube. It is said that in ordinary breathing the air is warmed as it passes through the mouth and nose and the pharynx and larynx, and so it is warmed air only which comes in contact with the bronchial tubes; that the entrance of cold air excites inflammation, and hence that many patients operated on for tracheotomy in croup die from bronchitis. To prevent this entrance of cold air, and I should say also of dry air, the patient's bed is surrounded with blankets, and a tube discharging moist vapour is introduced within the blanket-curtains, so that the patient may breathe a warm and moist air.

It seems to me that if the explanation I have given you be correct, there is no need for these special means—for these blankets and hot vapour. We know that if the larynx be opened for any other affection—for example, such a case as we have now in the hospital—there is no tendency to the occurrence of bronchitis, and the patient walks about and breathes the ordinary air, with very little protection, and without danger. A little protection may be necessary. Not only are these special means unnecessary, but in the disease diphtheria they are most injurious. They are most injurious because they tend to produce that exhaustion which is the cause of the fatal termination in so many cases during the second week of their illness. The relief which the patient experiences when you remove all this apparatus is marked. You must have seen it in the women to whom I have referred. Thus you will understand that I think it most important for the success of the treatment of croup, should tracheotomy be performed, that the patient should be kept in a moderately warm atmosphere, a moderately moist atmosphere, but an atmosphere only so moist as may