earache, sometimes accompanied by hyperæmia of the drumhead, and sometimes not, cured only after a carious tooth had been removed, or cleaned out and filled.

The channel of transmission from the teeth to the ears may be directly through the fibres of the fifth from the dental to the auriculo-temporal branch. This may be the case in those patients whose trouble is only *pain* of a reflex character unaccompanied by inflammatory changes; but it will not explain the acute aural catarrh and suppurative otitis of dentition. Two explanations of these lesions are given: (1) extension of the inflammation from the gums to the middle ear by direct continuity of tissue. Roosa says he has seen this. Woakes, on the other hand, holds that the intermediate tissues are healthy, and offers, as an explanation of the tympanic catarrh, vasomotor disturbance. He traces the irritation from the teeth along the afferent sympathetic fibres accompanying the dental branches of the fifth to the otic ganglion. Here the nervi vasorum of the carotid plexus are met and receive reflex irritation. This causes dilatation of the tympanic branch of the internal carotid going to the drumhead. Thus a hyperæmia of the drumhead is produced. Its vessels anastomose freely with those of the drum cavity, and tympanic hyperæmia results—the first step in the production of tympanic catarrh.

Justifiable conclusions from the foregoing are that the diagnosis in cases of recurrent earache must include the condition of the drumhead, pharynx, nose and teeth; that therapeusis must include the treatment of disease found in these structures.

DIAGNOSIS OF DIPHTHERIA.*

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The diagnosis of diphtheria is comparatively easy in the majority of cases. The thick white patch with its red border of inflamed mucous membrane is not likely to be mistaken for anything else. Unfortunately, however, the characteristic appearance is not formed in a large proportion of the cases met with in practice, and as the divergence from the typical form increases, the difficulty of recognizing the disease becomes greater, until at last a point is reached where it will be impossible for even the most experienced to decide whether an existing morbid condition is diphtheria or not.

The constitutional symptoms of pharyngitis are exactly like those of the milder forms of diphtheria, and although the exudation in pharyngitis is usually soft and easily washed or brushed from the mucous membrane, it becomes at times firmer and adheres to the underlying tissue with considerable tenacity, and is then easily mistaken for the false membrane of diphtheria. In mild cases of follicular tonsillitis the exudations from several lacunæ often coalesce and form a somewhat thick white mass, which may adhere to the surface of the tonsil for several days having much the same appearance as diphtheria. The symptoms of a severe attack of follicular tonsillitis are similar to those of the graver forms of diphtheria. In the former, however, the temperature is higher, albuminuria, when present, occurs later and does not last long, the exudation is not so extensive and there is less nervous depression. The inflamed lympathic glands usually found in diphtheria are frequently met with in tonsillitis, while paralysis of the palate and pharynx may follow either.

In endeavoring to arrive at a conclusion as to whether the diseased condition of the pharynx in a given case is diphtheria or not, some other sources of error besides those already referred to have to be guarded against. In making an examination of the pharynx small diphtheritic deposits are liable to escape notice unless the patient makes an effort, to vomit when the tonsils will revolve outward and expose their posterior surfaces; occasionally a laryngoscopic mirror may be useful in making this examination. It will sometimes happen that after a case of pharyngitis has pursued the ordinary course for several days, a false membrane will form and other symptoms of a serious attack of diphtheria become developed, but it is generally admitted that there is a form of diphtheria in which no false membrane is found, and which has no constant or reliable symptoms to distinguish it from ordinary pharyngitis. Sir Morell McKenzie believed that in this form of diphtheria the disease was arrested in its first stage of development, and that its nature could not be known until the occurrence of paralysis, or until there was unmistakable evidence that diphtheria had been contracted from the patient.

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