Leprosy of the Nose, Throat and Ears, a Neglected Subject

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The purpose of this paper is to point out some gaps in our knowledge of leprosy of the nose, throat and ears. Leprosy does not begin in the nose, but once affected, the upper respiratory passages are important for the spread of the disease. Early diagnosis of leprous mucosa lesions could be of value for the assessment of natural defense mechanisms. More observations are desirable, for which teamwork of dermatoleprologists, otolaryngologists, pathologists and bacteriologists is required. Such examinations should include early cases which have not been investigated thoroughly (4). But this is rendered difficult by scarcity of physicians and specialists in the endemic regions.

The literature deals nearly always with advanced, already treated, usually lepromatous cases. The following picture of the disease can be derived from pertinent publications. The skin is always affected before the nose, and the nose (if at all) before the pharynx and larynx. In tuberculoid leprosy the upper respiratory ways are affected less frequently than in the other forms, especially in the lepromatous form. However, leprous lesions have been observed also in tuberculoid leprosy. In the cases reported by Reynaud and Languillion (15) from Senegal the mucosal lesions, even if they were less frequent, were not different in type from those found in lepromatous leprosy.

Among relatively *early symptoms and signs* of nasal leprosy epistaxis and rhinitis are mentioned. Such rhinitis is acute and accompanied by mucopurulent secretion containing numerous mycobacteria. Another relatively early sign can be a plaque-like grey infiltration in the anterior nose (Little's, Kiesselbach's, Valsalva's area).

Later lesions consist of nodules which may ulcerate, and other infiltrative and ulcerous processes. Atrophic rhinitis with formation of crusts and also with fetor is observed often (13, 15, 17, 24). Frequent acute nasal leprosy is considered one of the causes of atrophy (13). Other consequences of ulcerous processes are destruction first of the cartilaginous nasal septum, then of the osseous parts, scarring stenosis, hyposmia and anosmia. Cochrane (4) mentions ulcerations, edema and inflammation of the turbinates, but found them in tuberculoid leprosy only when the face also was affected. R. G. Hastings (personal information) observed in Carville, La., USA swelling of the nasal mucosa in tuberculoid leprosy during the "reaction," and hyperemia, mucosal swelling and epistaxis as a consequence of the erythema-nodosum-leprosum-syndrome. The experience of Tissié and coworkers (24) should be noted. In Viet Nam they encountered *M. leprae histologically* in the nasal mucosa after the nasal smear had become negative. It may be recalled that the nasal smear becomes positive (if at all) later than the skin smear but may remain positive after the skin smear has become negative (3). Therefore, biopsies from the mucosa should be taken as often as possible. In performing this operation one should remember that lepromata of the mucosa are not always anesthetic (23, 24).

Sinusitis, especially of the maxillary sinus, may complicate nasal leprosy. The specific etiology of the sinusitis still has not been shown. *M. leprae* has been encountered rarely in the pus, and very seldom has a specific lesion in the mucosa of the maxillary sinus been found. Treatment of the sinus affection is, of course, important for the well-being of the patient and for the improvement of the nasal disease (2, 8, 14, 21).

Osseous changes in nose, sinus and jaws may consist in atrophy of the anterior nasal spine and loosening of the upper incisors, first described by Møller-Christensen and coworkers (10, 11) and confirmed by Michman and Sagher (9); also osteolysis and osteoporosis. The two latter changes

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were found by Reynaud and Languillon ([16]) more often in lepromatous cases, but also in tuberculoid and intermediate cases. They were sometimes observed early in the disease, and were often, but not always, accompanied by leprous rhinitis.

Leprosy of *mouth and pharynx* occurs only after leprous affection of the nose ([1]). It is more frequent in the lepromatous form but also is found in the tuberculoid form. The palate, the faucial pillars and the uvula are locations of preference, and the tongue also can be affected. Specific infection of the dental pulp and periapical granulomata have been described ([7, 12]).

There is general agreement that *leprosy of the larynx* has lost its dread after the introduction of modern therapy. In rare cases tracheotomy and laryngotomy may become necessary because of fibrous healing processes which cause stenosis ([18, 19]). The "reaction" may cause an acute worsening of the leprous larynx condition and may necessitate tracheotomy ([15]). The most frequent location of leprosy in the larynx is the epiglottis, which may become destroyed. Leprous affection of the epiglottis may render difficult or impossible inspection of the inner larynx.

A lepromatous patient who had been insufficiently treated in his home country, and who later was admitted to the hospital department of the Hamburg Tropeninstitut, possessed an epiglottis which appeared to consist entirely of villous discolored granulations. Inspection of the inner larynx by indirect laryngoscopy was not possible even after many months of treatment, during which the epiglottis became smooth but still remained thickened.

Lepromata, ulcers, destruction and scarring of the vocal and ventricular folds have been observed ([18, 19]). The lesions can extend to the subglottic area and to the trachea. Desikan and Job ([5]) described leprous granulomata in the larynx, which were found only histologically, the organ appearing normal to the naked eye. Leprous *nerve affection* may be the cause of paresis of the vocal cords in an otherwise normal larynx.

Leprosy of the ear. The well-known lesions of the pinna may extend into the external meatus ([6]). Specific leprous changes of the middle ear, the inner ear and the eighth nerve are not known. Frugoni ([6]) mentions two leprous patients with chronic otitis media in which *M. leprae* was found in the aural pus. Histologic examinations of the granulation tissue of the middle ear were not carried out; thus the leprous etiology of the ear disease cannot be considered as proved. Schuring and Istre ([22]) examined the hearing of 288 patients in Carville, La. and did not encounter differences between leprous and nonleprous persons. Sacheri also was unable to diagnose leprosy of the middle or inner ear, although he observed nonspecific disease of the tympanic cavity as a consequence of leprosy of the rhinopharynx ([1, 20]).

SUMMARY

There have been relatively few reports by otolaryngologists regarding leprosy in the ear and upper respiratory tracts. Routine rhinological examinations of early cases apparently are practiced nowhere. More research in this field by close cooperation of dermatoleprologists, otolaryngologists, pathologists and bacteriologists is desirable. Pertinent publications are reviewed briefly.

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