

Paparella: Volume I: Basic Sciences and Related Principles

Section 9: Otolaryngologic Manifestations of Systemic Diseases and Pain

Chapter 45: Head and Neck Manifestations of AIDS

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The head and neck manifestations of those with complications found in acquired immunodeficiency syndrome (AIDS), AIDS-related complex (ARC), or human immunodeficiency virus (HIV) infections are numerous and unusual. They can be classified into three groups: (1) opportunistic infections caused by immunosuppression; (2) tumors resulting from the immunosuppression; and (3) direct effects of infection with HIV. These can then be organized by anatomic site.

The most commonly observed otologic manifestations of AIDS involve Kaposi's sarcoma of the external auricle. The auditory canal and tympanic membrane are less frequently involved. Severe cases of fungal external otitis have been noted, but have not been as common a clinical problem in AIDS patients as expected. Serous otitis media is more prevalent in the adult population, and inflammatory ear disease in the pediatric population has also been confirmed. This is undoubtedly a result of eustachian tube dysfunction from nasopharyngeal masses, recurring viral infections, and allergy which is increased in HIV infection. Hearing loss is most commonly sensorineural in the high frequencies, although conductive losses from the above etiologies and *Pneumocystis carinii* granulomas of the external auditory canal have been noted. Auditory brainstem-evoked responses with conduction delays greater than two standard deviations and a degraded waveform have been noted in patients with AIDS and ARC and in healthy seropositive patients. This suggests that the cause might be central demyelination, possibly from HIV infection. It is also likely that CNS and end-organ involvement with neurosyphilis, tumors, and opportunistic infections (i.e., cryptococcal and cytomegalovirus infections), as well as drug side effects, contribute to these abnormalities. Hearing loss requires conventional management and evaluation, and the physician should bear in mind that this is a cranial neuropathy and represents a disorder of the CNS. Myringotomy should be performed and tubes should be placed earlier using universal precautions, because HIV has been cultured from middle ear fluid. Facial nerve paralysis occurs secondary to herpes and other CNS infections.

Rhinologic manifestations are most commonly nasal symptoms of obstruction and rhinorrhea. These are caused by tumor, viral infection, sinusitis, rhinosporidiosis or allergic-autoimmune mechanisms. Both Kaposi sarcoma and lymphoma have been described occurring in the sinuses. Sinusitis is extremely common and is probably due to the increased incidence of viral infections and allergies seen in AIDS and ARC. Causative organisms in sinusitis include both common infectious agents, often encapsulated, and uncommon, opportunistic infectious agents typically fungal or mycobacterial. Sinusitis should be treated by administering amoxicillin or cefaclor. Sulfa drugs should be avoided, since they frequently cause allergic reactions. Giant

nasal herpetic ulcers of the nasal vestibule and adjacent skin are characteristic in appearance and may be resistant to treatment with acyclovir. Nasal obstruction resulting from benign hyperplasia of the adenoid pad, or "lymphadenopathy syndrome" caused by HIV, is not uncommon. Adenoidectomy is curative but lymphoma must be ruled out. The most frequently observed malignant tumor is Kaposi sarcoma. Epistaxis has also been noted from tumor and idiopathic thrombocytopenic purpura.

Although the oral manifestations are legion, clearly the most frequently encountered oral manifestations are infections caused by *Candida*, which is ubiquitous, followed by viral infections, typically herpes. Hairy leukoplakia is an entirely new AIDS-associated entity resulting from EB virus infection of the epithelial cells, usually of the lateral aspects of the tongue. Giant intraoral ulcers, up to several centimeters like major aphthae, are frequently seen. They occur most frequently in the tonsillar area and can be well treated using either 50 per cent dexamethasone euker or temovate combined with 50 per cent oral paste (Orabase HCL). It is important to differentiate these ulcers from erosive lymphomas. If there is no improvement after 2 weeks of therapy, biopsy should be considered. Intraoral tumors are common, typically Kaposi sarcoma and, less often non-Hodgkin's lymphoma or squamous cell carcinoma.

Tonsillar abnormalities secondary to tumor are usually from Kaposi sarcoma, but can be from lymphoma. Infections typically occur with common organisms, but can be caused by *Mycobacterium avium intracellulare*. Additionally, the tonsil and its pillars are a common site for giant intraoral ulcers. Involvement of other areas of lymphoid tissue in Waldeyer's ring is common, and is often a result of Kaposi sarcoma or benign follicular hyperplasia from HIV infection.

Hoarseness is not uncommon. It is usually secondary to true vocal cord edema from chronic cough, previous radiation therapy, or lymphatic obstruction from KC. Recurrent laryngeal nerve paralysis can occur from *Vinca* alkaloids or cytomegalovirus infection of the recurrent laryngeal nerve. In addition, Kaposi sarcoma of the base of the tongue, hypopharynx, and larynx can also cause hoarseness, and can progress to frank airway obstruction.

Parotid enlargement occurs in 30 per cent of pediatric AIDS patients and can be caused by viral infection or by a Sjogren-like autoimmune phenomenon. In adults, neoplastic masses are more common, such as Kaposi sarcoma, lymphoma, adenoid cystic carcinoma, and Warthin's tumor, but can also be congenital branchial cleft cysts or lymphoepitheliomas from parotid rests. These cysts are typically bilateral, involving the tail of the parotid gland, and they can be managed by excision or tetracycline ablation.

The most common cervical manifestation of AIDS is the *neck mass*. The finding of *marked lymphadenopathy* is almost universal in patients infected with HIV; however, it can decrease late in the course of the disease. *Stable lymphadenopathy, when evaluated every 3 to 6 months, does not require biopsy*. The next most common causes for neck masses include lymph node involvement with Kaposi sarcoma and non-Hodgkin's lymphoma. The most common opportunistic infection in the neck is caused by *Mycobacterium avium intracellulare* or

mycobacterial tuberculosis. Neck masses are ubiquitous in AIDS. Consequently, their evaluation can be a difficult clinical problem. FNA is indicated when (1) there is a change in systemic symptoms, (2) the neck mass is tender or rapidly enlarging, and (3) a dominant node is present. Direct laryngoscopy and biopsy should be done in smokers and in patients with squamous cell carcinoma.