



Cancer in the HIV-infected child

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HIV-related cancers occur more commonly in adults than in children.¹ However, as the number of HIV-infected children increases, and as treatment of pediatric HIV infection becomes more effective and facilitates longer survival, the number of AIDS-related malignancies in children is likely to increase. Accordingly, this communication reviews current information regarding the occurrence of HIV-related cancer in children.

Kaposi's sarcoma (KS)

KS is the most common HIV-associated malignancy, presenting in 15% of adult AIDS cases. KS frequently presents with oral lesions. Approximately 33% of adult AIDS patients with oral KS may have multiple sites of involvement including the skin, viscera, and lymphnodes.² KS lesions may present on any part of the oral mucosa and gingiva; the most common oral location is the hard palate. Lesions may be solitary or multiple, raised or flat, and may vary in color (red, blue, purple).² Recent epidemiologic evidence suggests that there is a sexually transmitted etiology in HIV-associated KS.³

KS is a relatively uncommon complication of childhood HIV infection. Orlow and coworkers recently reported a computer-based literature review regarding AIDS-associated KS in children and found that only 33 cases have been reported.⁴ This review suggested that cutaneous involvement in childhood KS was associated with postnatally acquired HIV infection. Two case reports^{5,6} indicate that AIDS-associated KS in children can be limited to the lymphadenopathic form and not have the typical aggressive cutaneous lesions found in adults. Additionally, it is interesting to note that KS has been reported in a 6-day-old HIV-infected infant.⁷ To date, KS oral lesions have not been reported in the pediatric AIDS population.

Non-Hodgkin's lymphoma (NHL)

NHL is the second most common HIV-associated malignancy. A recent report by the World Health Organization Collaborating Centre on AIDS indicated that of the 53,042 reported AIDS cases in the European Re-

gion (21 countries) as of June 1991, 1617 (3.0%) cases had NHL as the presenting clinical manifestation of AIDS.⁸ The proportion of cases presenting with NHL ranged from 1.1% in children infected perinatally to 3.9% among hemophiliacs. With respect to age, two peaks of NHL were seen at the age groups 10 years – 19 years (3.8%) and 50 years – 59 years (4.3%). Another report⁹ analyzed data from cases reported to the Centers for Disease Control through June 1989. During this period 97,258 AIDS cases were reported, of which 2824 (2.9%) had NHL. The distribution of cases were as follows: 1686 cases were immunoblastic lymphoma; 590 Burkitt's lymphomas; and 548 primary CNS lymphomas. The frequency of Burkitt's lymphoma peaked at 10–19 years of age (1.8%); primary CNS lymphoma was constant for all ages (0.6%); and immunoblastic lymphoma peaked in patients aged 50 years or older (3.5%). Lymphomas were most common in patients with coagulopathies. Oleske's group has reported that primary CNS lymphoma has occurred in 3% of all HIV-infected pediatric patients who presented to the Children's Hospital of New Jersey.¹⁰ Collectively, these reports indicate that HIV-infected children and adolescents are at significant risk for NHL.

NHL may present with oral lesions that frequently involve the gingiva and palate.² AIDS-associated NHL tends to be high-grade and aggressive. Any enlarging oral mass or swelling in an HIV-infected patient must generate a suspicion of NHL, thereby justifying a biopsy.

Other malignancies

In addition to KS and NHL, other malignancies reported to occur in HIV-infected children include: hepatic fibrosarcoma,¹¹ hepatic leiomyosarcoma,¹² hepatoblastoma,¹³ acute lymphoblastic leukemia (B-cell type),^{13, 14} Hodgkin's lymphoma,¹⁴ and Ewing's sarcoma.¹⁵

Discussion

Cancer therapy for HIV-infected children must comprise multiple medical, social, and ethical issues. The AIDS-impacted child who is nonresponsive to

antiretroviral therapy probably would not benefit from treatment of a secondary malignancy. However, several case reports¹⁴ indicate that HIV infection, in and of itself, should not be considered an absolute contraindication for cancer therapy. These case reports¹⁴ demonstrate that certain HIV-infected children may benefit from cancer treatment.

Immunosuppression and myelosuppression are well-known complications of cancer therapy. Management of these complications in HIV-infected children is hampered by their increased risk for potentially fatal opportunistic infections. Accordingly, as the pediatric HIV epidemic expands and the resultant number of HIV-related pediatric cancer cases likely increases, supportive care protocols (e.g. oral care) will need to address this increased risk for infection.

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