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ORIGINAL ARTICLE

Indications for HIV testing in paediatric surgical patients

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Abstract

HIV testing is done in paediatric surgical patients at Queen Elizabeth Central Hospital, when HIV infection is suspected to be the underlying cause of the clinical presentation or contributing to morbidity. We conducted a retrospective, descriptive analysis of children with surgical conditions under the age of 15 who underwent HIV tests between January 2001 to April 2004. A total of 279 children were tested - 50.2% were boys and 49.8% were girls. Overall HIV prevalence was 39.8%. The most common indications for testing and those with highest HIV prevalence were sepsis (31% of the diagnoses and HIV prevalence of 38%), head and neck swellings (22% and HIV prevalence of 39%) and urogenital problems (17% of cases and HIV prevalence of 51%).

Introduction

HIV infection is a major contributing factor to childhood disease and mortality. In low- income developing countries, the diagnosis of HIV infection in children below the age of 15 months is largely dependant on the pattern of presentation of signs and symptoms because of poor access to specialized diagnostic tests. In these countries, many HIV infected children die from common childhood illnesses before their HIV infection is recognized and before severe disease or AIDS develops.

The prevalence of HIV infection in children admitted to QECH is about 20%, highest in infants of less than 6 months 1. In infants and children admitted to QECH with surgical conditions, HIV testing is usually done when HIV infection is suspected to be the underlying cause or to be significantly contributing to their morbidity. We conducted a retrospective audit of HIV prevalence among paediatric surgical patients.

Method

All suspected children regardless of the age are tested using HIV spot tests after consent. HIV infection status was not confirmed by PCR in infants less than 18 months of age. This is a descriptive study analyzing details of all children who underwent HIV spot tests between January 2001 to April 2004. The following information of all children who agreed to HIV testing is kept in a register: age, sex, indication for the testing and the result of the HIV test.

Results

A total of 279 children between the ages of 1 day to 15 years were tested. The average age was 4.09 years. 50.2% were boys and 49.8% were girls. 39.8% of the children were HIV positive and 60.2% HIV negative. 30.5% were less than 18 months of age and 69.5% above 18 months of age. Of children who were HIV positive, 51.3% were girls and 48.6% were boys.

The commonest indication for HIV testing was sepsis followed by head and neck swellings and urogenital problems. Of those with sepsis, the most common diagnosis was infected/non-healing wounds (34%) and about half of the children with this diagnosis were HIV positive. Other diagnoses included cancrum oris (10.3%), peritonitis, and empyema.

For children with head and neck swellings, the common indications for an HIV spot test were a neck swelling, parotid swelling, submandibular swelling or a swelling under the ear. Of 8 of the children who had a parotid swelling, 5 (63%) of them were HIV-positive.

Of the urogenital problems, the most common diagnosis was rectovaginal fistula (42.6%) followed by genital warts (21.3%). Other diagnoses included perianal fistulas and growths in the genital area. 75 % of the children with a diagnosis of rectovaginal fistula were HIV positive while 20% of the children with genital warts were also HIV positive.

Discussion

Sepsis was the most common indication for HIV testing followed by head and neck swellings and urogenital problems. HIV seropositivity was particularly high in children who had urogenital problems such as genital warts, rectovaginal fistulas or perianal fistulae. Acquired rectovaginal fistulas are almost always due to HIV infection. However, in this study there were some congenital ones that were mixed up when they were being entered in the register.

This study illustrates the lack of sensitivity of clinical features in children in determining presence of HIV in children. All the children in this study were suspected to have HIV infection yet just over a third were reactive. Although several clinical signs and symptoms are associated with HIV, none are sensitive enough for clinical diagnosis. HIV testing with counseling should be performed to confirm HIV status.

HIV infection is considered if there are clinical symptoms or signs. Since the routine HIV test is an antibody test, an infant with a positive test result may have only passive maternal antibodies and thus may not be seropositive 2,3. The test is so sensitive that maternal antibodies have been detected up to 15 months after birth in an infant not infected with HIV 2,3. Laboratory tests can help distinguish seropositive infants earlier through the isolation of the virus, detection of viral antigen (p 24) and detection of viral genome (with PCR)4. These tests are not routinely available in Malawi which is why the spot test was used in all age groups in this study.

In a previous study done in Malawi, among children under 16 months old, 22% of those who were antibody positive did not have infection confirmed by PCR 1. In this study 30.5% of all the children were below 18 months of age so there may have been some false positive results in our study.

In paediatric surgical patients undergoing HIV tests, the most common diagnosis is sepsis followed by head and neck swellings and urogenital problems. A high percentage of those with urogenital problems are HIV positive. The increasing availability of antiretroviral drugs is likely to increase practice and acceptance of HIV testing, which may lead to better care and outcomes for paediatric surgical patients who are HIV-infected.

References

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Table 1. Indications for HIV testing

	Number (% of total)	HIV positive
Sepsis	87 (31.2%)	33 (37.9%)
Head and neck swellings	61 (21.8%)	24 (39.3%)
Urogenital problems	47 (16.8%)	24 (51.1%)
Congenital	28 (10.0%)	7 (25.0%)
Others	50 (17.9%)	18 (36.0%)
Unknown/not indicated	6 (2.2%)	5 (83.3%)

Table 2. Sepsis diagnoses and HIV prevalence

	Number	HIV positive
Infected/nonhealing wounds	30 (34.5%)	14 (46.7%)
Cancrum oris	9 (10.3%)	3 (33.3%)
Peritonitis	6 (6.9%)	2 (33.3%)
Empyema	4 (4.5%)	2 (50%)
Others	38 (43.7%)	12 (31.6%)