

Radiological progression of nodular infiltrates in HIV-infected South African children



Introduction:

A nodular pattern on chest X-ray (CXR) is common in HIV-infected children and has a wide differential diagnosis. There is limited knowledge of the natural history and clinical associations of pulmonary nodules in HIV-infected children in low- and middle- income countries.

Aim:

To describe longitudinal radiological changes in pulmonary nodules in HIV-infected South African children, with clinical or immunological associations.

Methods:

We conducted a 5-year prospective longitudinal study of HIV-infected children on a Cape Town INH prophylaxis trial. Clinical and immunological parameters were measured. CXR's were done on enrolment, 6-monthly and during episodes of acute infection.

Results:

258 children were followed for a median of 24 months (IQR: 18-42).

At enrolment, 71 (27.5%; male=40), median age 39 months (IQR: 24.5-56) and median CD4+ 18% (IQR:14-26%) demonstrated a nodular pattern; 16/71 (22.5%) were on anti-retroviral therapy (ART) and 12/71 (16.9%) had pulmonary tuberculosis (PTB).

25 (35%), median CD4+ 31% (IQR: 20-37%), showed persistent pulmonary nodules at 24 months (Table 1).

In those showing resolution (n=46,65%), the median CD4+(IQR) at the time of clearing was 24% (IQR:18-29%). Resolution in PTB patients was similar to the whole group; patients on ART tended to earlier resolution (Figures 1, 2).

Conclusion:

The majority of patients with pulmonary nodularity show radiographic clearing associated with improved CD4+ percentages. Nodules persisting beyond 18 months may not be associated with immune suppression.

Follow-up (months)	Whole group		ART	TB
	median CD4+% (IQR)	n=71(%)	n=16(%)	n=12(%)
6m	17(12-25)	61(86)	10(62)	10(83)
12m	23(17-30)	47(66)	8(50)	8(67)
18m	25(18-31)	34(47)	6(38)	6(50)
24 m	31(20-37)	25(35)	4(25)	5(42)

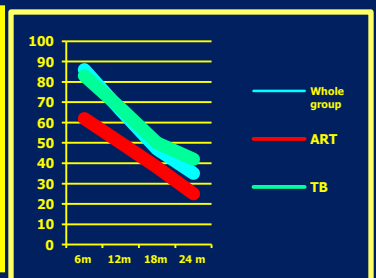
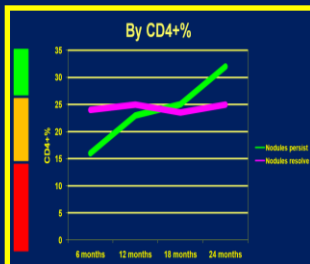


Table 1. Persistence of pulmonary nodules

Figure 1. Persistence of nodules by CD4+%

Figure 2. Persistence of nodules by ART, PTB

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