

Poster Abstract – P60

Avascular necrosis of femoral head in patients with human immunodeficiency virus type 1 (HIV-1) infection: a single-centre experience

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Purpose of the study

Introduction of highly active antiretroviral therapy (HAART) has led to an improvement of life expectancy and quality of life in patients living with HIV. Concomitantly, concerns are arising about long-term side effects of chronic use of antiretroviral therapy. Avascular necrosis of the femoral head (ANFH) and other epiphyses is increasingly reported as one of these debilitating complications. The objective of this study is to analyse clinical characteristics and outcome of patients with avascular necrosis (AN) followed in our centre.

Patients and methods

We analysed retrospectively the charts of 1020 HIV-1 infected patients followed in our centre and focused on symptomatic patients with radiologically proven AN. We analysed risk factors, demographic and clinical characteristics, treatment and outcome in these patients.

Summary of results

Ten patients with AN were identified (prevalence of 0.98%). The average interval between HIV diagnosis and diagnosis of AN was 89.1 months (1–254). Four patients had no evidence of risk factors (40%) whereas 6 (60%) had at least one risk factor. One patient had three cumulated risk factors and for him the onset time for AN was shorter (36 months). All patients had been treated by antiretroviral therapy when AN was diagnosed, but one of the patients developed symptoms prior to start of antiretroviral treatment. All classes of antiretroviral drugs have been used: protease inhibitors (mean use duration of 34.7 months before the ANFH onset), non-nucleoside reverse transcriptase inhibitors (12 months), and nucleoside reverse transcriptase inhibitors (40.5 months). ANFH was unilateral in 4 patients and bilateral in 6 patients. In one of these 6 cases, multiple AN locations were present (table). In eight patients, total hip arthroplasty (THA) (88.8%) was the definitive treatment. Diagnosis of ANFH in the two patients who were not operated is very recent (5 and 13 months) but surgery is already indicated. The average interval between ANFH diagnosis and the first THA was 10.5 months.

Median age	Years (min–max)
Age	46.2 (24–84)
Age at AN diagnosis	40.8 (22–69)
Men	6 (60%)
Caucasian	7 (70%)
Median CD4 count (/μl)	CD4/μl (range)
Nadir	65 (4–242)
At diagnosis of AN	405 (13–957)
Viral load at AN diagnosis	N (%)
Undetectable	5 (50%)
Detectable	5 (50%)
Lipid Profile	mg/dl (range)
TC	234 (145–335)

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LDL	134 (65–230)
TG	214 (78–512)
Haemoglobin electrophoresis:	N (%)
Normal	8 (80%)
Abnormal (heterozygote)	1 (10%)
Risk factors:	N (%)
Cortisone	1 (10%)
Alcohol	4 (40%)
Chemotherapy	2 (20%)
Smoking	1 (10%)
Radiotherapy	1 (10%)
Average duration of HAART use	Month (range)
PI	34.2
NNRTI	12
NRTI	40.5
Average time between HIV diagnosis and AN (months)	89.1 (1–254)
Average time between onset of symptoms and first arthroplasty (months)	10.5 (2–20)

Conclusion

AN, and particularly ANFH, is a rare but debilitating complication in HIV-1 infected patients. The role of ARV in the pathogenesis of AN remains unclear. However, classical risk factors play an essential role and accumulation of several risk factors could shorten the time before onset of AN. In the presence of advanced disease (stage III–IV) the final treatment remains arthroplasty.