



POSTER PRESENTATION

Open Access

# Emerging HIV-associated concerns: osteopenia and osteoporosis. Easy prevention and management guidelines

Roberto Manfredi

From 16<sup>th</sup> International Symposium on HIV and Emerging Infectious Diseases  
Marseille, France. 24-26 March 2010

## Background

Osteopenia and osteoporosis (O) are emerging complications of HIV infection, especially when treated with combined antiretroviral therapy (cART). The pathogenesis is multifactorial, potentially involving all classes of anti-HIV drugs, although protease inhibitor (PI) use, overall HIV and cART duration, and the male sex, seem related to a significantly greater risk.

## Methods

In a preliminary DEXA screening assessing lumbar spine and femoral head of around 100 out of around 1,000 single-centre patients (p), the frequency of osteopenia-osteoporosis (based on lumbar T-score) was assessed around 48%. An increased risk was found in p treated with protease inhibitors *versus* p receiving non-nucleoside reverse transcriptase inhibitor, or triple nucleos(t)ide reverse transcriptase inhibitors.

## Results

Prospective studies of extensive p samples are needed, to elucidate the epidemiology, pathogenesis, clinical issues, and evolution of HIV-associated bone metabolism abnormalities. When planning strategies for their early diagnosis, prevention, and management, also cost-effectiveness issues should be taken into consideration, since no pharmaco-economic data still exist in this setting. Although severe consequences (pathological fractures, prosthetic implants), are expected to be proportionally infrequent events, their consequences in

terms of length-intensity of hospitalization, related costs, and especially consequences on the patient's quality of life, are expected to play a remarkable role. Anyway, the most reliable diagnostic procedure of O (i.e. DEXA scan), has affordable costs (around Eur 43.40 for a scan which also offers a body composition assessment), as well as the first-line drugs for osteopenia, e.g. supplementation with calcium (Eur 6/month), and vitamin D (Eur 7/month). These costs cannot be compared with the standards costs of an asymptomatic cART-treated p (Eur 471 to 874/month), and the immunologic, virologic, laboratory, and clinical controls made at least quarterly in the same p.

## Discussion

Like post-menopausal O, also HIV disease should be investigated from multiple cost-effectiveness points of view, to establish which p are the early candidates for a DEXA screening, when this examination is more useful during HIV disease course-therapy, when the DEXA scan should be repeated, and when-how to intervene pharmacologically, in order to prevent serious and potentially invalidating O-related complications.

Published: 11 May 2010

doi:10.1186/1742-4690-7-S1-P68

Cite this article as: Manfredi: Emerging HIV-associated concerns: osteopenia and osteoporosis. Easy prevention and management guidelines. *Retrovirology* 2010 **7**(Suppl 1):P68.

Correspondence: Roberto.manfredi@unibo.it  
Infectious Diseases, University of Bologna, S. Orsola Hospital, Bologna, Italy