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Selective increase in serum IgE following enfuvirtide administration in HIV-1 infected multidrug resistant patients

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SUMMARY

Enfuvirtide (ENF) is the first HIV-1 entry inhibitor used in clinical practice and is currently administered via the subcutaneous route. We here evaluated whether ENF administration leads to a change in humoral parameters, including IgE, possibly related to ENF-associated injection site reactions (ISRs). A 24-week prospective study was conducted in multidrug resistant patients enrolled in the ENF Early Access Program characterized by CD4 counts ≤100 cells/microlitre and no other active antiretroviral drug.

Licensed commercial laboratory assays were used to measure the parameters considered in this study. Results are reported as medians (interquartiles IQR). Statistical analyses were performed using Wilcoxon sign rank, Wilcoxon rank sum and Kruskall Wallis tests.

Total IgM, IgA and IgG did not change significantly throughout the study. Conversely, a significant increase in IgE was observed in all patients, in those with normal as well as in those with altered IgE at baseline (BL). ISRs such as induration and number of nodules were more frequent in patients with altered BL IgE. IgE increased significantly in all patients, regardless of the different stratifications in their BL CD4 counts. Of note, the ENF-induced increase in CD4 occurred significantly in all patients, independently of their BL IgE levels.

The immunological response associated with ENF treatment is accompanied by a selective increase in IgE levels. Determination of IgE could be used in the monitoring ISRs associated with ENF.

KEY WORDS: Enfuvirtide (ENF), IgE, CD4, Injection site reactions (ISRs), Immunological response

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INTRODUCTION

Enfuvirtide (ENF) is the first of a new class of drugs, the entry inhibitors, to have joined the therapeutic armamentarium against HIV (Castagna *et al.*, 2005; Moore and Doms, 2003). It is a synthetic peptide which inhibits HIV-1 entry by targeting multiple sites in gp41 and gp120 (Asboe, 2004; Cervia and Smith, 2003; Liu *et al.*, 2005; Matthews *et al.*, 2004). Large phase III clinical trials have shown that ENF plus an optimized background (OB) of other antiretroviral drugs offers more benefit than OB alone in terms of gain in CD4 cell counts and reduction in HIV viraemia (Lalezari *et al.*, 2003; Lazzarin *et al.*, 2003). Of interest, cross-reactive gp41 anti-

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