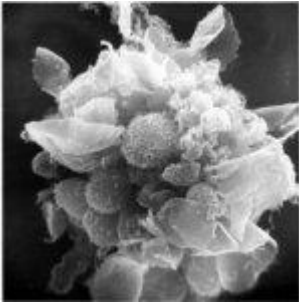


Is Adipose Tissue a viral reservoir?



Adipose tissue is made up of adipocytes and the stromal vascular fraction (SVF), which comprises immune cells such as CD4⁺ T cells and macrophages. Both cells are important target cells for human immunodeficiency virus (HIV) infection. HIV infection is characterised by both a) viral persistence in reservoirs and b) chronic inflammation. In the September edition of PloS Pathogens, a paper explores the potential involvement of adipose tissue as both a viral reservoir and in establishing inflammation. It is well known that adipose tissue has inflammatory potential, which has been extensively described in the context of obesity.

The authors first analyzed the impact of simian immunodeficiency virus (SIV) infection on abdominal subcutaneous and visceral adipose tissues in SIVmac251 infected macaques and found that both adipocytes and adipose tissue immune cells were affected. The adipocyte density was elevated, and adipose tissue immune cells presented enhanced immune activation and/or inflammatory profiles. They further demonstrated that SVF cells (including CD4⁺ T cells) are infected in ART-controlled HIV-infected patients. Importantly, the production of HIV RNA was detected by *in situ* hybridization, and after the *in vitro* reactivation of sorted CD4⁺ T cells from adipose tissue.

The study hence "identified adipose tissue as a crucial

cofactor in both viral persistence and chronic immune activation/inflammation during HIV infection.” The implication of this study lies with devising strategies for purging viral reservoirs from adipose tissue and to modulate adipose tissue-related pathways to lower chronic inflammation during HIV infection.

[Damouche, A. et al. 2015. Adipose Tissue Is a Neglected Viral Reservoir and an Inflammatory Site during Chronic HIV and SIV Infection. PLOS.](#)