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## LONG-TERM CHANGES IN LIPODYSTROPHY AFTER SWITCHING FROM THYMIDINE NUCLEOSIDE ANALOGUES TO ABACAVIR

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**OBJECTIVES:** The MITOX study demonstrated modest (mean 0.39 kg) recovery of limb fat over 6 months in lipodystrophic adults who replaced thymidine nucleoside analogue therapy (stavudine 85%; zidovudine 15%) with abacavir. This improvement was not clinically evident, however, over this period. We wished to determine whether clinically relevant recovery of lipodystrophy would occur over a longer follow-up period following thymidine analogue withdrawal.

**METHODS:** Patients enrolled in MITOX were followed beyond the 24 week randomized phase up to 128 weeks. Patients randomized to remain on thymidine analogues were allowed to switch to abacavir at week 24. Serial DEXA and CT scans were used to assess changes in subcutaneous and central fat. Analysis was by intention-to-treat using available data. Multiple linear regression methods were used to examine predictors of change in limb fat.

**RESULTS:** Of the original 111 patients randomized, 104 had long-term follow-up data, with 74 having imaging data available at week 104 (mean follow-up 102 weeks). The difference between the abacavir and zidovudine/stavudine arms in mean time-weighted change from baseline to last follow-up for total limb fat (kg), visceral adipose tissue (mm<sup>3</sup>) and whole-body bone mineral density (g/cm<sup>2</sup>) were: 0.43 (95% CI: 0.12–0.75), –4.84 (95% CI: –15.22–5.55) and 0.01 (95% CI: –0.08–0.09), respectively. Lipid and glycaemic parameters did not change significantly. At week 104, the mean increase in limb fat in patients who switched to abacavir at baseline was 1.26 kg from a baseline of

3.7 kg. Patients who switched to abacavir at baseline also reported slightly greater improvement in self-assessed lipodystrophy severity over 72 weeks ( $P=0.148$ ). Multivariate analysis showed that greater increase in limb fat was associated with lower baseline bone mineral density ( $P=0.006$ ), shorter duration of zidovudine pre-study ( $P=0.024$ ) and shorter duration of d4T on study ( $P=0.004$ ).

**CONCLUSIONS:** Lipoatrophy continued to improve for 2 years after switching stavudine or zidovudine therapy to abacavir, although this was not clinically evident in the majority of patients.

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