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Oxidized Phospholipids and Lipoprotein(a) Response Following Successful Percutaneous Revascularization of Chronically Occluded Coronary Arteries.

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Background: Percutaneous coronary intervention (PCI) results in acute plasma increases of oxidized low-density lipoprotein (OxLDL) and lipoprotein(a) (Lp(a)). We studied the temporal changes in release of OxLDL and Lp(a) following PCI of chronically occluded coronary arteries (CTOs).
Methods: Thirty three patients who underwent successful PCI of CTO were included. Blood samples were drawn before PCI, immediately post-PCI and at 6 and 24 hours, 3 days and 1 week. Plasma levels of Ox-LDL-E06, a measure of oxidized phospholipids content on apo-B-100 and levels of Lp(a) were measured in all samples and compared with previous data from 141 patients undergoing successful PCI of non-CTO vessels.
Results: Levels of OxLDL-E06 and Lp(a) were significantly higher in patients with CTOs (47344±7628 vs 9064±680 relative light units and 32.8±4.4 vs 21.7±2.6 mg/dl respectively. OxLDL-EO6 and Lp(a) levels, both expressed as percent change from baseline levels before PCI, rose gradually following PCI of CTOs (see graph). In contrast, levels of Ox-LDL-E06 and Lp(a) in non-CTO vessels rose immediately post PCI and then dropped rapidly to baseline by 24 hours.
Conclusions: Higher levels of OxLDL and Lp(a) likely reflect greater disease burden in these patients. The temporal changes in markers of circulating OxLDL differs substantially in patients undergoing PCI of CTO versus non-CTO vessels, probably reflecting differences in CTO lesion composition with more fibro-calcific and less fatty elements compared with non-CTO lesions. This may explain the low frequency of distal embolization observed following PCI of chronically occluded vessels.

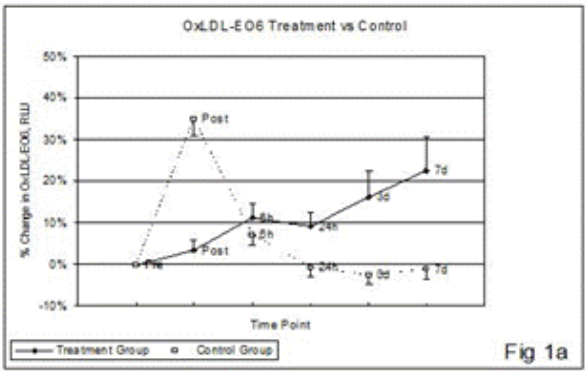

Fig 1a

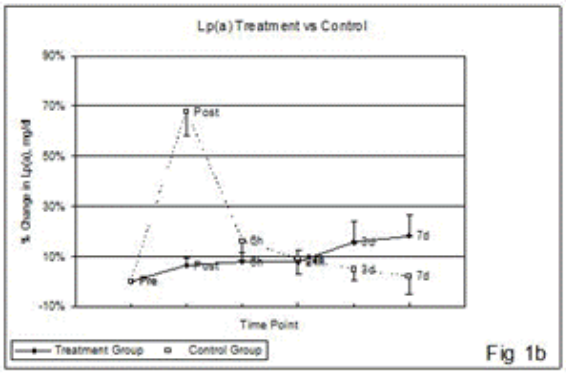

Fig 1b