

Plaque Imaging with CT: Can We Replace IVUS?

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EVAPORATE will be the first study using serial cardiac CTA to evaluate the effects of icosapent ethyl on atherosclerotic plaque as an adjunct to statin therapy in a North American population with persistent high TG levels (200-499 mg/dl), and will assess whether these effects correlate with lipid changes and inflammatory markers. The clinical implications of icosapent ethyl 4 g/d as an adjunct to statin therapy on CV endpoints are also being evaluated in the large CV outcomes study REDUCE-IT.

EVAPORATE will provide important mechanistic data that may have relevance to understand the REDUCE-IT results on CV events.

The use of serial cardiac CTA allows for the noninvasive examination of plaque composition, severity of vessel stenosis, plaque volume, and extent of remodeling over time. Cardiac CTA also can measure plaque burden over time. The technique is now used in clinical investigations evaluating a range of therapies including testosterone, garlic, statins, hormone replacement, anti-inflammatory agents, and novel oral anti-coagulant agents. MDCTA yields high reproducibility of measurements³³ and allows for evaluation of the entire coronary tree. It has been shown to have high reproducibility, with <1% variability for measuring noncalcified and calcified plaque volume and <10% variability for total plaque. Cardiac CT also has been shown to correlate with IVUS in measuring lipid plaque volume.