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Usefulness of optical coherent reflectometry with guided radiofrequency energy to treat chronic total occlusions in peripheral arteries (the GRIP trial)

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Optical coherent reflectometry, a forward-looking, fiberoptic-guided device was used in 72 patients to direct radiofrequency energy across the central intraluminal portion of 75 chronic total occlusions in peripheral arteries (iliac, femoral, and popliteal) that failed attempts with conventional guidewires. The system was successful in crossing 76% of the chronic total occlusions with no clinical perforations or distal embolizations, and complications consisted of a single dissection greater than or equal to grade C.