

Rotational Atherectomy for Peripheral Arterial Disease: A Two-Centre Clinical Evaluation

Sangami Eravanan

5th Year Medical Student, University of Cambridge, UK

Joseph Moneim

University of Cambridge, UK

Amir Helmy

University of Cambridge, UK

Abstract:

Atherectomy is a minimally invasive procedure used to remove calcified plaque from arteries, aiming to increase vessel compliance and lumen diameter. This evaluation assessed the clinical success and complication rates of rotational atherectomy in treating angioplasty-resistant calcified lesions in patients with symptomatic lower limb peripheral arterial disease (PAD). A two-centre, clinician-initiated prospective service evaluation was conducted on all atherectomy cases performed since June 2022. Data were collected intraoperatively by clinicians and supplemented with follow-up information from electronic medical records. All 14 procedures used the Jetstream™ rotational atherectomy system, with no exclusions. Patients were followed up locally for a mean duration of 12 months. All procedures achieved technical success, with a median radiation exposure time of 20.6 minutes. At six months, 12 patients showed symptomatic improvement or reduced tissue loss, giving clinical success rate of 86%. After one year, 58% remained free of symptom recurrence. These results suggest that rotational atherectomy is an effective adjunct in the management of moderate to severe arterial calcification in PAD, offering high clinical success and low complication rates. Importantly, there were no haemorrhagic events, supporting its safety profile. Further studies with larger cohorts and long-term follow-up could strengthen the evidence for its broader application in complex PAD cases.