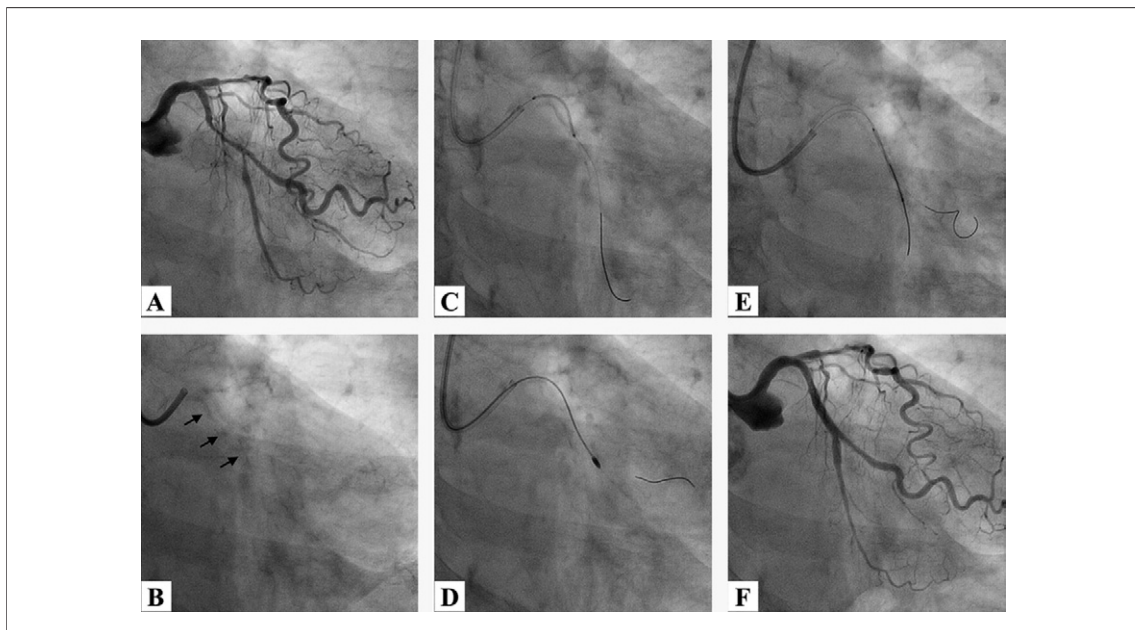


## Usefulness of Rotational Atherectomy in Preventing Polymer Damage of Everolimus-Eluting Stent in Calcified Coronary Artery

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**Figure 1.** Everolimus-Eluting Stent Implantation in a Calcified Coronary Artery

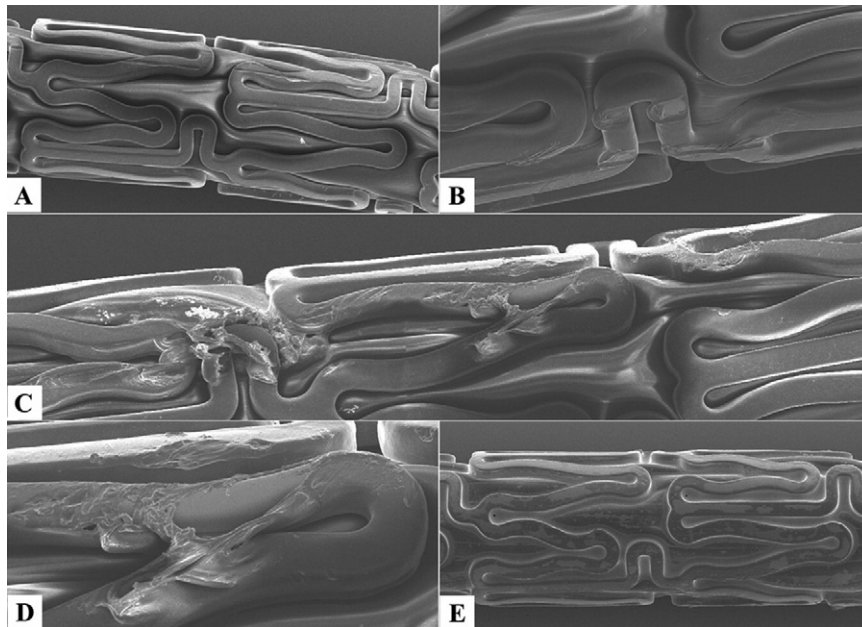
Coronary angiography showing an 80% stenosis in the mid left circumflex artery (A). Fluoroscopy demonstrates moderate calcification (arrows) in the proximal and mid left circumflex artery (B). An everolimus-eluting stent is not able to advance to the lesion (C). Rotational atherectomy is performed (D). Another everolimus-eluting stent advances to the lesion without significant resistance (E). The final angiogram shows a good result (F).

A 78-year-old woman with an 80% stenosis with moderate calcification in the mid left circumflex artery (Figs. 1A and 1B) was referred for coronary angioplasty. Delivery of a 28-mm everolimus-eluting stent (EES) was initially attempted. However, it would not advance to the

lesion (Fig. 1C). Rotational atherectomy was performed (Fig. 1D). Another 28-mm EES was delivered to the lesion without significant resistance (Fig. 1E). The EES was drawn out to examine damage to its polymer. Another 28-mm EES was deployed. The final angiogram showed a good result (Fig. 1F). Scanning electron microscopy demonstrated damage to the polymer of the EES that would not advance to the lesion (Figs. 2A to 2D). By contrast, there was no damage to the polymer of the EES that was delivered without significant resistance after rotational atherectomy (Fig. 2E).

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**Figure 2. Scanning Electron Microscopy Showing Damage and No Damage to Polymer**

Scanning electron microscopy shows damage to polymer of the everolimus-eluting stent that would not advance to the lesion (A to D). By contrast, there is no damage to the polymer of the everolimus-eluting stent that was delivered without significant resistance after rotational atherectomy (E).

Even with EES, damage to its polymer may occur when it is delivered through a calcified coronary artery. In this situation, rotational atherectomy may be useful to prevent damage to its polymer.

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