Effects of Atherectomy On Immediate Luminal Gain In Patients With In-Stent Restenosis/Thrombosis

WHICH ATHERECTOMY DEVICE IS BEST ?

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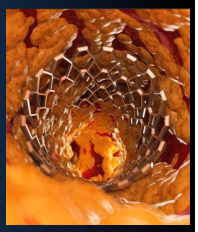
DISCLOSURES

- Nothing to Disclose

Best Method To Treat In-Stent Restenosis/Thrombosis Remains Controversial

- Stents are placed in treatment of PAD for residual stenosis or dissection following balloon angioplasty or as a primary modality for lesions with high rates of restenosis
- In-stent restenosis (ISR) or stent thrombosis (ST) occurs in 30-40% of patients undergoing femoral-popliteal stenting within two years
- The most effective strategy to treat ISR/ST remains controversial
  - Standard Balloon Angioplasty
  - Drug coated or Cutting Balloon Angioplasty
  - Cryoplasty
  - Repeat Stenting- Uncovered?, Covered?, Drug-eluting?
  - Atherectomy +/- BA



Luminal Gain After Atherectomy Measured By IVUS

- Average Luminal Gain for Fem-Pop lesions- 26.4%
- Average Luminal gain for Tibial lesions- 29.5%
- No Difference between Atherectomy Devices
  Laser, Orbital, Rotational

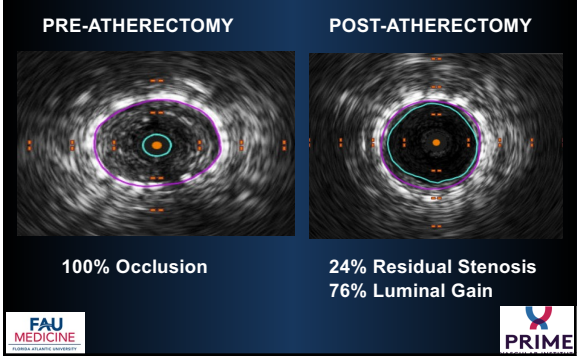
OBJECTIVE

- Atherectomy may have a specific benefit of providing immediate luminal gain in patients with ISR/ST
- To Evaluate Immediate Luminal Gain measured by IVUS after using various types of Atherectomy devices for ISR/ST in the femoral-popliteal segment
- Short-term (6 mos) patency also assessed

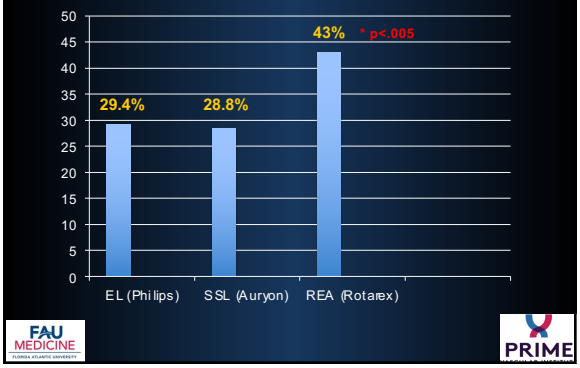
METHODS

- 120 LE interventions for ISR >70% or Stent Thrombosis > 14 days between 6/2022 and 4/2024
- IVUS used pre and post-atherectomy to assess luminal gain
- Compared Excimer Laser (Philips), Solid State Laser (Auryon), Rotational Excisional Atherectomy (Rotarex)
- 1-month and 6-month Duplex to assess stent patency. Recurrent stenosis >70% (PSV>200 cm/s)

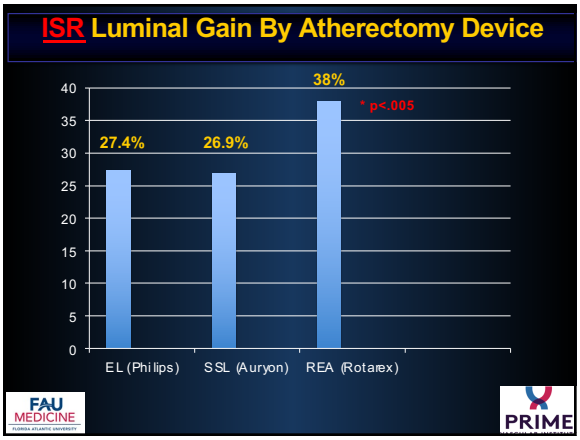
LUMINAL GAIN



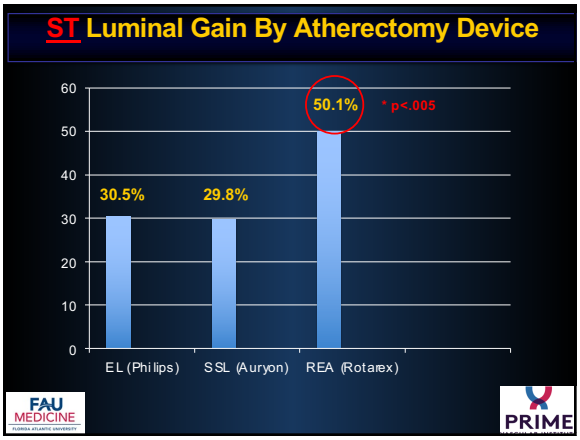
Overall Luminal Gain By Atherectomy Device



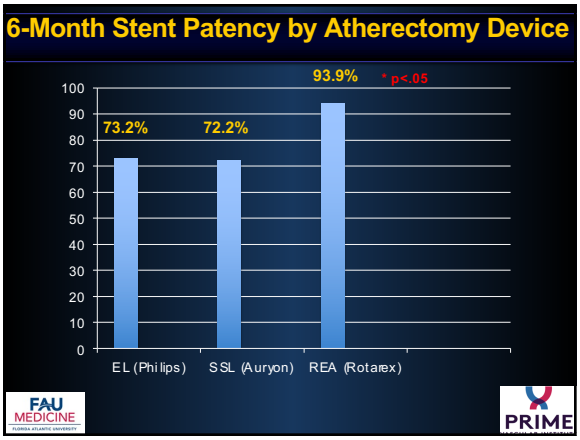
ISR Luminal Gain By Atherectomy Device



ST Luminal Gain By Atherectomy Device



6-Month Stent Patency by Atherectomy Device



CONCLUSIONS

- Rotational Atherectomy results in larger luminal gain and better short-term patency than laser atherectomy for patients with stent related occurrence (ISR or ST)
- The type of laser atherectomy did not influence results
- Rotational Atherectomy achieved improved results for both luminal gain and short-term patency in subgroup analysis of both ISR and ST
- Greater Luminal Gain may lead to better patency
- These data suggest that Rotational Atherectomy should be preferred when re-intervention is undertaken for stent-related problems