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Layers of interstitial fluid flow along a “slit-shaped” vascular adventitia

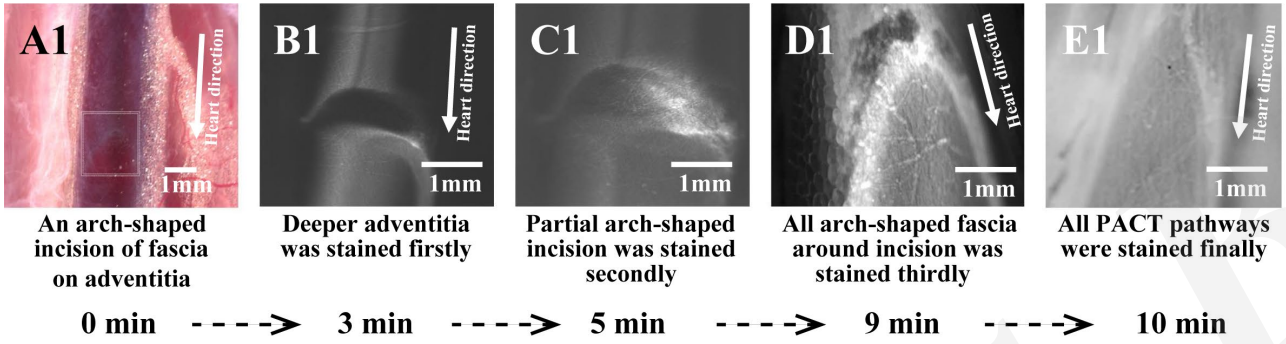
Key words: vascular adventitia, interstitial fluid, connective tissues, interfacial zone

Research Summary

These data revealed that a PACT pathway was a "slit-shaped" porous biomaterial, comprising a longitudinal transport channel and an absorptive part for imbibition:

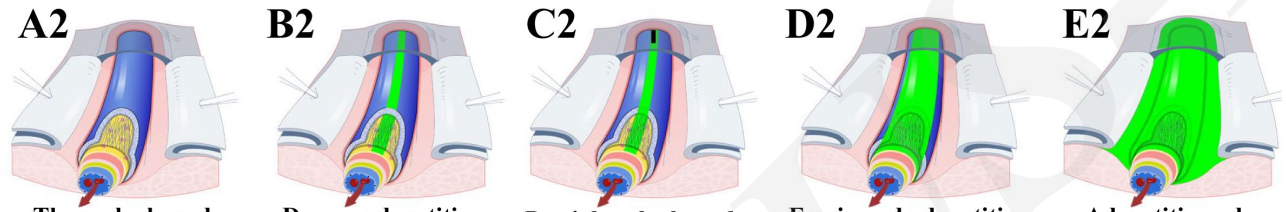
- **Interfacial tension might play an essential role in layers of continuous ISF flow along vascular vessels**
- **A hypothetical "gel pump" is proposed based on interfacial tension and interactions to regulate ISF flow**

Innovation points

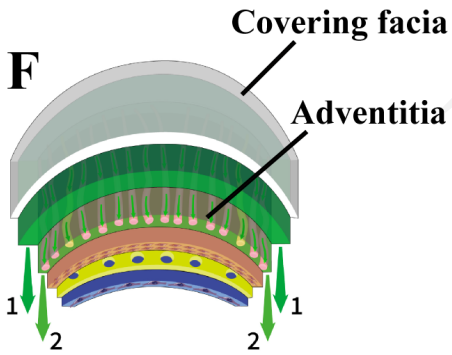


An arch-shaped incision of fascia on adventitia | Deeper adventitia was stained firstly | Partial arch-shaped incision was stained secondly | All arch-shaped fascia around incision was stained thirdly | All PACT pathways were stained finally

0 min ----> 3 min ----> 5 min ----> 9 min ----> 10 min



The arch-shaped incision of fascia on adventitia | Deeper adventitia was stained but the arch-shaped incision was not | Partial arch-shaped incision was stained secondly | Fascia and adventitia around incision were stained | Adventitia and perivascular tissues were stained



1. ISF flow between the covering facia and adventitia
2. ISF flow through adventitia

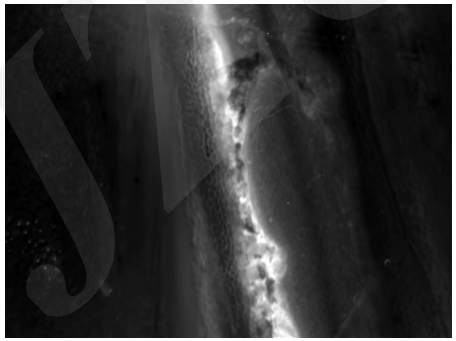


Illustration of a continuous fluid flow along the edge of an arch-shaped incision

- **Introduction** of a successive process of ISF flow through a PACT pathway, first via the adventitia and secondly crossed layers of fascia and into the perivascular connective tissues

- **Emphasis** of sufficient fluid would be transported constantly via a smaller space in adventitia and a bigger space between the covering fascia and the adventitia, and diffuse into the surrounding perivascular connective tissues, like a flow and irrigation system

Figure 4