

# Radiofrequency Perforation and Conventional Needle Percutaneous Transseptal Left Heart Access: Pathological Features

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## HIGHLIGHTS

- ▶ 12 piglets had transseptal procedures, 6 with a conventional needle and 6 with radiofrequency. Transseptal punctures were followed by acute (1hr) and chronic (1 month) necropsy so as to compare conventional needle punctures to radiofrequency punctures.
- ▶ With the acute RF group, there is a thin zone of cardiomyocyte necrosis a few cell layers thick surrounding the neolumen. (Figure 4b)
- ▶ Chronic scarring 1 month following interatrial puncture with the RF group consists of collagen-rich connective tissue with minimal chronic inflammation. (Figure 5a)
- ▶ Although the characteristics of tissue insult are different, the extent of RF-induced atrial tissue injury is similar to the mechanical trauma of conventional needle puncture.
- ▶ In another 3 piglets, the aortas were intentionally perforated from the right atrium using radiofrequency. All three piglets survived the procedure.

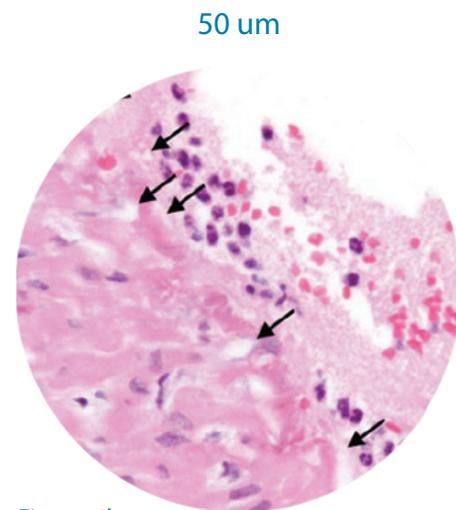


Figure 4b

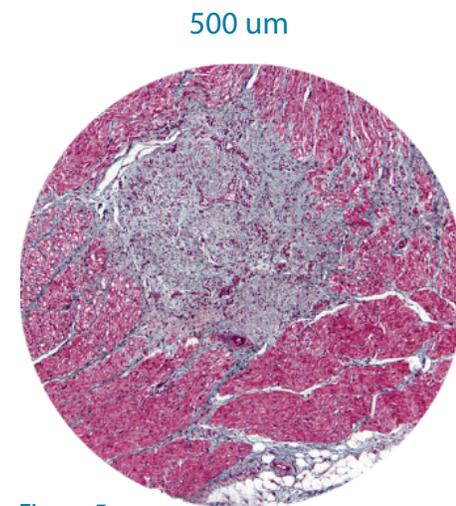


Figure 5a