Termination of incisional atrial tachycardia without global capture by single atrial pacing in
the patient with open-cardiac surgery; a case report.

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Introduction: Termination without global capture was reported as the finding to identify critical part
of the re-entrant circuit for scar-related ventricular tachycardia. However, there were few reports about
this phenomenon in atrial tachycardia.

Methods: N/A

Result: The present case was a 46-year-old woman with past history of open-cardiac surgery using
superior trans-septal approach for mitral valve prolapse. Atrial tachycardia (AT) occurred after the
surgery and it was refractory to anti-arrhythmic drugs, and then she was admitted to our hospital for
catheter ablation. Electroanatomical mapping with CARTO3 system revealed that AT was macro-
reentrant AT involving incision line at right atrium (RA). Fragmented continuous potentials were
identified at lower lateral RA adjacent to incision line. Single atrial pacing at this site was performed to
avoid phrenic nerve injury, and it could terminate AT without global capture. AT could not be inducible
due to bump of ablation catheter, then radiofrequency applications were performed at this site under
sinus rhythm. The conduction block was confirmed in the RA by differential pacing. There was no
recurrence of AT for 2 years after catheter ablation.

Conclusion: We reported the rare case of termination without global capture in the patient with
incisional AT. This phenomenon is an important finding showing a critical slow conduction zone in atrial
tachycardia as well as ventricular tachycardia.