CS has muscular sheaths which connect it to atria. A 44 year old man with longstanding persistant AF had his previous ablation that included wide encircling PV antrum, roof line and endo-epicardial mitral isthmus (MI) ablation. Two years later he had recurrence of arrhythmia. PVs were reconsolidated, and roofline and MI block were confirmed. Atrial pacing induced a regular tachycardia (CL 340ms) with proximal to distal CS activation. Activation and entrainment mapping in LA, RA and CS were suggestive of focal atrial tachycardia with earliest activation in anterior LA just superior to line of MI block. Activation in proximal CS was medial to lateral and in high lateral CS (lateral of the isthmus) was caudocranial but later than the proximal CS. Wide spaced double potentials were recorded at the site of earliest activation. Focal endocardial ablation just superior to MI line terminated arrhythmia. Endocardial ablation along CS was done but could not isolate CS. Epicardial ablation in CS starting distally did not affect the CS signals until an abrupt loss of CS atrial signals was observed while ablation in proximal CS and dissociated CS signals were noted after isolation. These features imply that CS had a discrete residual connection with atria near proximal CS. In such a case, activation pattern in CS does not imply LA activation.

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