Abstract: **P1016**

**Regional left atrial function assessment using tissue doppler imaging following left atrial appendage exclusion as part of minimally invasive thoracoscopic surgical ablation**

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**Topic(s):**
Atrial Fibrillation - Treatment

**Citation:**
Background: Left atrial appendage (LAA) exclusion is performed more frequently during minimally invasive thoracoscopic surgical ablation (TSA) in atrial fibrillation(AF) management. The impact of LAA exclusion on left atrial (LA) function is not fully understood in patients with long-standing persistent AF (LSPAF).

Methods: De­novo patients with non­valvular LSPAF were randomized to catheter ablation (CA) or TSA (1:1) as part of the CASA AF trial (NCT02755688). Patients underwent pulmonary vein isolation (PVI), and isolation of posterior wall in both procedures. LAA was excluded in TSA using Atriclip® system. CA also had an additional inferolateral mitral valve isthmus(MVI) ablation. Echocardiography was performed at baseline and 3 months following ablation. Regional wall analysis (RWA) was performed using Tissue Doppler imaging(TDI) on 4 LA walls (anterior, inferior, septal and lateral) below the mitral valve annulus. The LA function was divided into Reservoir(SSR), Conduit (ESR) and contractile function(ASR) (Figure 1).

Results: 38 patients (CA = 19, TSA = 19), 65.4 (±9.9) years old, male = 30 (79%) had ablation. Baseline function in AF was similar for both groups. RWA between baseline and 3 months showed reduction ASR in inferior LA segment (5.6 ± 2.2 vs 7.5 ± 2.4, p < 0.05) in CA group when compared to TSA group. All the other RWA did not show a significant difference between baseline and 3-month follow-up for CA and TSA groups (Table 1). The global LA function at baseline and 3 months follow up was similar between the two groups (Figure 2)

Conclusion: LAA exclusion as part of TSA improves global LA ASR to the same extent as CA. There is no evidence from our groups that LAA exclusion has a detrimental effect on LA function measured by TDI. There is evidence to support reduced LA inferior ASR in CA group likely due to the addition of MVI line. However, this does not impact global ASR.
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Figure 2: Global Left Atrial Function using TDI at baseline and after 3 month following TSA and CA.