**Introduction**: Atrial fibrillation (AF) and heart failure (HF) are modern cardiovascular epidemics each associated with high burdens of morbidity and mortality. Despite increasing recognition of HF with preserved ejection fraction (HFpEF) among AF patients, diagnosis is challenging with invasive haemodynamic study remaining the gold standard. We aimed to determine using invasive haemodynamic study the prevalence of HFpEF in patients referred for first time AF ablation, and to compare their characteristics against their non-HFpEF counterparts.

**Methods**: Consecutive qualifying patients (EF≥50%) scheduled for index AF ablation underwent exercise right heart catheterization, cardiac MRI, echocardiogram, QOL questionnaires and BNP testing. Diagnosis of HFpEF was made when patients had signs or symptoms of HF, elevated BNP with resting PCWP ≥ 15mmHg peak exercise PCWP ≥25 mmHg and EF≥50%.

**Result**: Of 70 eligible patients, 41 consented to participate and 3 were excluded due to decline in EF after enrolment, leaving 38 in the final analysis. Of these, 61% had HFpEF with characteristics detailed below. Prevalence was higher in patients with persistent vs paroxysmal AF (89% vs 35%, p=0.003; and higher in women vs men (93% vs 4.3%, p=0.004). HFpEF was not associated with obesity (30 vs 29%, p=0.249). QOL questionnaires did not correlate with HFpEF diagnosis.

**Conclusion**: HFpEF is prevalent in patients referred for AF ablation as demonstrated by exercise right heart catheterization. Further studies are needed to understand the impact of catheter ablation and outcomes in this patient population.