**INTRODUCTION:** Late recurrence greatly limits the efficacy of ablation for atrial fibrillation (AF), and may reflect the progression of substrates associated with comorbidities such as hypertension. We hypothesized that ablating patient-specific AF rotors and sources would prevent recurrent AF on long-term (>3y) followup better than pulmonary vein isolation alone, even in patients with such comorbidities.

**METHODS AND RESULTS:** The CONFIRM trial enrolled 92 consecutive AF patients (70.7% persistent), of whom 97.7% showed 1.9±1.1 concurrent rotors or focal sources. Ablation consisted of Focal Impulse and Rotor Modulation (FIRM) then conventional ablation in n=27 (FIRM-guided), and conventional ablation alone in n=65 (FIRM-blinded) patients. On a median of 1295 days followup (IQR 960-1994), freedom from AF was higher in patients receiving FIRM-guided than conventional ablation overall (77.8% vs 38.5%; 1.2±0.4 procedures; p=0.001) and after a single procedure (p<0.001). Notably, FIRM-guided remained superior to FIRM-blinded ablation in patients with hypertension (p=0.010), obesity (p=0.031) and obstructive sleep apnea (p=0.006). The figure shows freedom from AF in patients with Hypertension after FIRM-guided (blue) or conventional (red) ablation procedure.

**CONCLUSIONS:** FIRM-guided ablation eliminates patient-specific AF-sustaining substrates, and thus can prevent late and very late AF recurrence even in patients with comorbidities that otherwise cause substrate progression.