## Supplementary materials

**Figure S1.** Days with **brady- and tachyarrhythmia episodes** and management strategy in patients with **both episode types (n=22)**. Patient #9 had nocturnal bradyarrhythmias only, and patient #11 had tachycardia with prolonged conversion pauses and underwent an ablation procedure. Note that only a few (5 out of 22, 22%) patients underwent a pulmonary vein ablation and/or a cavotricuspid isthmus ablation.

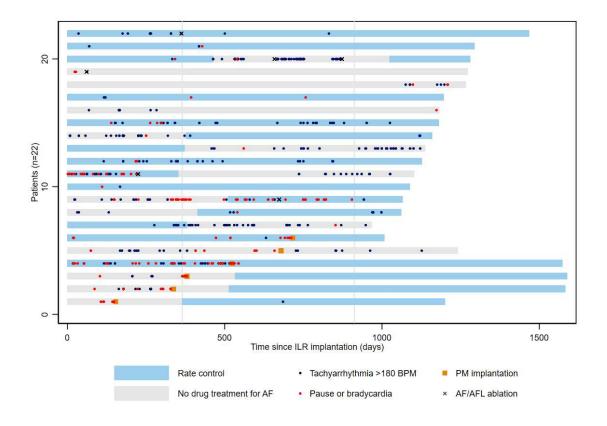


Figure S2. Days with tachyarrhythmia episodes over follow-up (n=106 patients). Note that 24 of 106 patients (23%)

underwent pulmonary vein isolation or a cavotricuspid isthmus ablation.

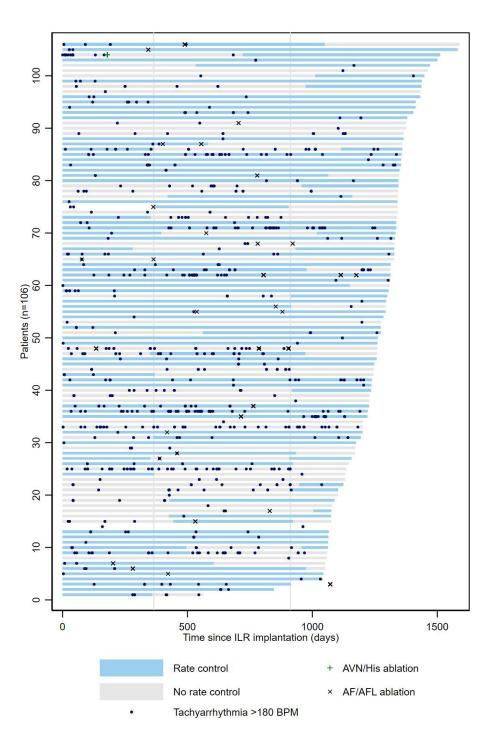


Figure S3. Two episodes of physiological aberrancy commonly seen with atrial fibrillation (Ashman phenomenon).

Wide QRS complexes follow a short R-R interval preceded by a long R-R interval.

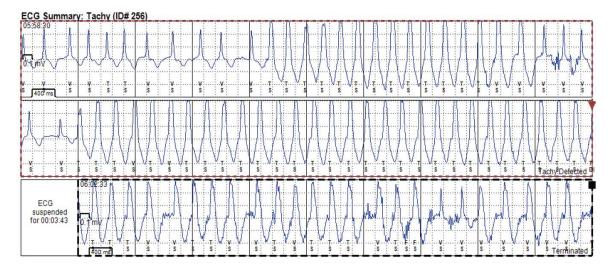


Figure S4a. Examples of nocturnal episodes in one day (24 hour-strips) in five different patients. The majority comprised bradycardia ≤30 BPM or pauses ≥5 seconds.

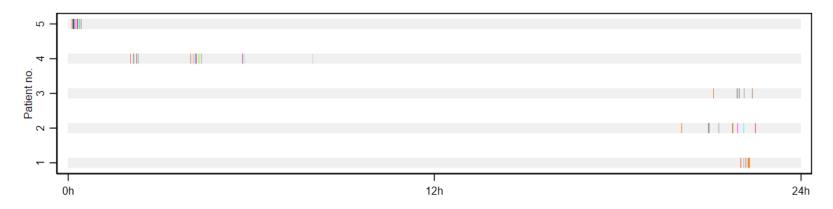
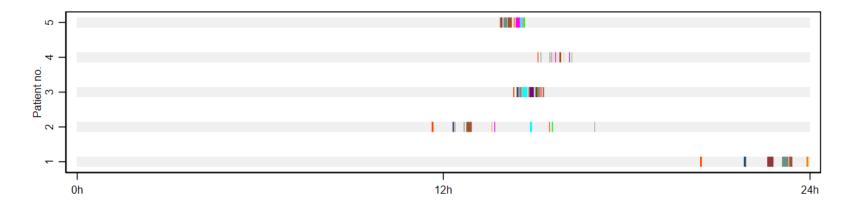
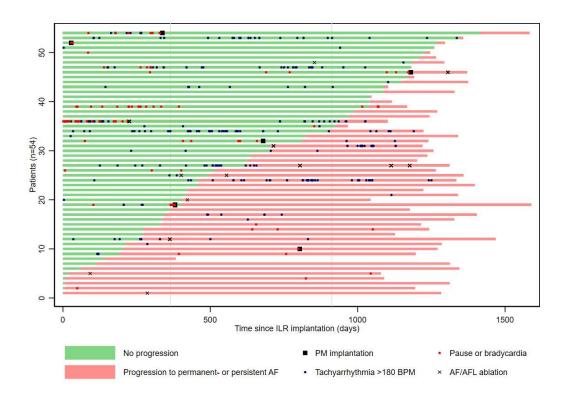


Figure S4b. Examples of consecutive tachyarrhythmia episodes in one day (24 hour-strips) in five different patients. Bar width indicates episode duration (relative over 24 hours), and placement indicates timing during the day. Most tachyarrhythmias occurred during daytime.

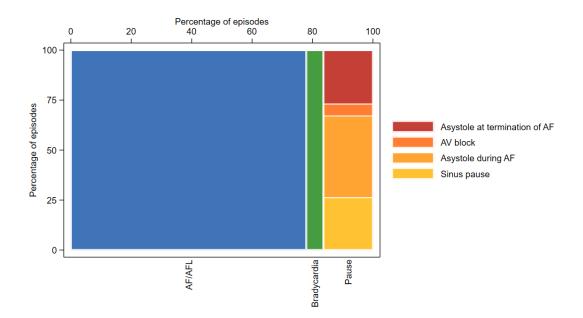


**Supplementary Figure S5.** Episode occurrence in patients with **AF progression** (n=54) according to progression status (n=54). Tachy- or bradyarrhythmia episodes were observed in 21 patients after ILR-detected progression to persistent- or permanent AF. BPM = Beats per minute. PM = pacemaker.



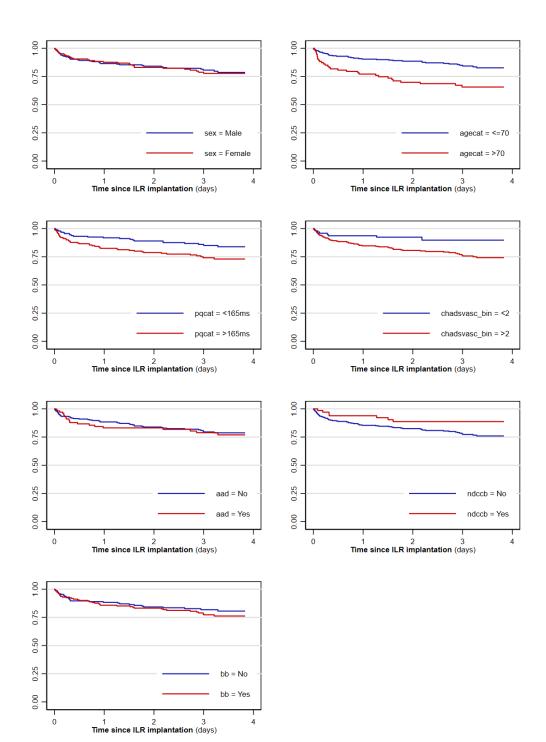
## Supplementary Figure S6. Episode characteristics (n= 1,940 episodes in 175 patients). Spine plot showing the

distribution of different alert types including aetiology of pauses based on single-lead ECG assessment.



## Supplementary Figure S7. Kaplan-Meier curves for time to first bradyarrhythmia event according to covariate

levels.



## Supplementary Figure S8. Kaplan-Meier curves for time to first tachyarrhythmia event according to covariate

levels.

