Intraprocedural Fluid Management as a Predictor of Length of Stay Post Atrial Fibrillation Ablation

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Introduction: Atrial fibrillation (AF) ablations are associated with large intraprocedural fluid intake via ablation technology & drug administration, which can prolong post ablation length of stay (LOS) and impact morbidity & mortality. Predictors for procedural fluid management & post ablation LOS are not well established.

Methods: 301 AF ablations from 2016-17 in a quaternary care center were evaluated for post ablation LOS. Retrospective chart review was conducted to include: baseline diuretic use, pre-procedural ejection fraction, pre-procedural creatinine, procedural intake & output, procedural furosemide dose, fluoroscopy time, ablation technology (radiofrequency (RF), cryoablation, or laser), ablation delivery time, & LOS following AF ablation.

Result: Of the 296 patients, 40.2% were on home diuretics. RF, cryoablation, & laser technology accounted for 91%, 6.4%, & 2.8% of procedures respectively. The average ablation energy delivery time was 65.9 ± 35.6 min. The average LOS was 1.272 ± 1.221 days. Independent t-test revealed that LOS was similar in patients with preserved vs. reduced EF. Prior diuretic use correlated with longer LOS (p=0.031). RF ablation procedures were associated with longer LOS compared to cryoablation & laser (p=1.2e-4 & p=2.4e-4).

Conclusion: Home diuretic use could suggest diuretic resistance which can confound volume management. RF ablation involves irrigation fluid volume which could explain the longer LOS. Recognition of these factors is essential to improve intraprocedural fluid management strategies to reduce hospital cost & increase patient safety.