Post-operative Atrial Fibrillation After Liver Transplantation: Rare But Beware

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**Introduction**: Post-operative atrial fibrillation (POAF) [defined as Atrial fibrillation (AF) occurring within 3 months of surgery] is associated with increased length of stay, increased ICU admission, and increased mortality. Data on POAF in the setting of liver transplant is limited and long-term outcomes of risk of recurrence of atrial fibrillation (ReAF) and mortality are unknown. Our objective was to study the rate of long-term recurrence (beyond 3 months) of POAF in liver transplant patients.

**Methods**: We conducted a single center retrospective study of liver transplant recipients from January 2010 to December 2015 with follow-up until 2018. Patients with prior atrial fibrillation were excluded. All charts and EKGs were manually reviewed to detect AF. Fischer's exact test was used for categorical variables. Kaplan-Meier survival analysis was performed.

**Result**: There were 337 patients who underwent liver transplantation. Fourteen recipients had new onset atrial fibrillation (4.2%) post-operatively. Mean age of these patients was 58+8.5 years. Males comprised 64% and Caucasians were 64%. EF was normal (>55%) in all patients. Average MELD score was 16.6+10 and child-Pugh was 9B. Patients were treated with rate and rhythm control agents (71% and 21% respectively). Median follow-up duration was 48 months (range 36-96 months). All-cause mortality was 35.7% (n=5/14) compared to 14.6% (45/312) in patients with no POAF (p=0.01). Long term recurrence of AF was higher in patients with POAF at 21.4% (n=3/14) as compared to 1.2% in patients with no POAF (n=4/312) (p=0.003). None of them had a CVA.

**Conclusion**: PoAF in liver transplant patients is rare. However, when it occurs it is not benign and is associated with a high long-term mortality. About a quarter of patients develop long term recurrent AF and close evaluation of rhythm status is required in these patients.