Post CABG Atrial Fibrillation is Strongly Correlated with Long-Term Risk of Atrial Fibrillation and Stroke

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DISCLOSURES

- **The authors have nothing to disclose**

INTRODUCTION

- The incidence of AF after CABG exceeds the reported prevalence of AF in the general population
- It occurs in 20 to 40 percent of patients, mostly during the first week post surgery
- It is associated with increased risk of stroke, prolongation of hospital stay and increased mortality
- Data regarding the correlation between in-hospital and long term AF is limited

1. Almassi GH et al. Atrial fibrillation after cardiac surgery: a major morbid event? Annals of surgery. 1997;226:501-11
2. Lahtinen J et al. Postoperative atrial fibrillation is a major cause of stroke after on-pump coronary artery bypass surgery. The Annals of thoracic surgery. 2004;77:1241-4.

OBJECTIVE

Primary

- To asses the correlation between early post CABG AF and **long-term risk of AF**

Secondary

- To asses the correlation between early post CABG AF and **long-term risk of CVA or mortality**

METHODS

- **Prospective analysis** of 161 consecutive patients who underwent isolated CABG surgery in Soroka medical center between the years 2002-2003 was performed
- **Excluded:**
  - Prior atrial fibrillation
  - Urgent CABG, Valve surgery
  - Recent AMI
- **Post CABG AF definition:** AF during the 1st week post surgery
- **Mean Follow-up:** 8.3 Year
- **Events at follow up definition:** recurrent AF, CVA, or death

METHODS

1

161 pts' underwent isolated CABG

2

145 Pts' with complete medical data

3

136 Pts' without a history of atrial fibrillation pre-CABG

BASELINE CHARACTERISTICS

PARAMETERS	ALL N (%) (136)	ERALY POST CABG AF (37)	NO EARLY POST CABG AF (99)	P VALUE
AGE	64 ± 9.5	67.6 ± 7.4	62 ± 9.7	0.001
MALE GENDER	94 (69)	24 (70)	70 (70)	NS
HTN	96 (71)	28 (76)	68 (68)	NS
SMOKING	44 (32)	8 (24)	36(36)	NS
DM	51 (38)	14 (41)	37 (37)	NS
PVD	18 (13)	8 (21)	10 (10)	0.006
H/O MI	66 (48)	16 (43)	50 (50)	NS
MOD / SEVERE LV DYSFUNCTION	18 (13)	6 (16)	12 (12)	NS
LEFT ATRIAL SIZE (mm) (ANT-POST)	36.9 ± 6.2	38 ± 6.2	37 ± 7.5	NS
BETA-BLOCKERS	115 (84)	30 (81)	85 (86)	NS

RESULTS: EVENTS AT FOLLOW-UP

	EARLY AF POST CABG N (%)	NO EARLY AF POST CABG N (%)	P VALUE
LONG-TERM AF	11 (30)	7 (7)	0.001
CVA	6 (16)	6 (6)	0.051
DEATH	10 (27)	22 (22)	0.148

RESULTS: PREDICTORS OF LONG-TERM AF

PARAMETERS	LONG-TERM AF (18)	NO AF DURING FU(118)	P VALUE
AGE	76 ± 8	71 ± 9.4	0.03
MALE GENDER	12 (67)	93 (79)	0.24
HTN	14 (78)	83 (70)	0.59
SMOKING	7 (39)	39 (33)	0.60
DM	6 (33)	45(38)	0.8
PVD	6 (33)	12 (10)	0.01
H/O MI	9 (50)	57 (49)	1.0
MOD / SEVERE LV DYSFUNCTION	3 (18)	15 (13)	0.70
LEFT ATRIAL SIZE (mm) (ANT-POST)	38.7 ± 5.7	36.7 ± 7.4	0.3
BETA-BLOCKERS	13 (72)	102 (86)	0.16
EARLY AF POST CABG	11 (61)	26 (22)	0.001

LONG-TERM AF: MULTIVARIATE ANALYSIS

	ODDS RATIO	P VALUE	95% CI
AGE	1.04	0.24	0.97 - 1.1
PVD	3.77	0.03	1.09 - 13.05
EARLY AF POST CABG	4.34	0.01	1.44 - 13.1

RESULTS: MEDICAL TREATMENT DURING FOLLOW-UP

	LONG-TERM AF (18 pt')	NO AF (118 pt')	P VALUE
Beta-Blockers	14 (82)	81 (69)	0.38
Aspirin	14 (82)	108 (91)	0.21
Anti-Arrhythmic	12 (71)	0	< 0.001
Warfarin	11 (65)	1 (0.8)	<0.001

RESULTS: SUMMARY

- Early AF post CABG was strongly associated with long-term risk of AF during mean FU of 8.3 years ($p<0.001$)
- Early AF post CABG was correlated with long-term risk of CVA during mean FU of 8.3 years ($p=0.05$):
  - 32% of pts' with early AF post CABG, experienced CVA during long-term FU
  - Only one of those pts' was diagnosed with AF during long-term FU, and was treated with Warfarin

conclusions

CONCLUSIONS

- **Theory # 1:** Post CABG AF serves as a biomarker for long-term risk of CVA, implying for higher risk pts'
- **Theory # 2:** Pts' were under-diagnosed with AF during long-term FU and hence were under-treated with anticoagulation

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- Patients with newly diagnosed AF post CABG should be closely monitored to facilitate early administration of anticoagulant therapy in high risk population

Thank You