

2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

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**Impact of sex difference and atrial fibrillation on clinical outcomes following coronary artery bypass grafting:
A nationwide population-based study in South Korea**



- Atrial fibrillation (AF)
 - A common complication after coronary artery bypass grafting (CABG)
 - Leading to poor long-term survival
- To investigate gaps in the existing evidence regarding new-onset AF following CABG
 - By comparing the incidence and impact of clinical outcomes between females and males

**First-time CABG patients (aged ≥ 18 years)
in South Korea from January 2005 to December 2015
(n = 36,790)**

Exclusion:

1. A concomitant or previous cardiovascular surgery other than CABG (n = 6,557)
2. No subscription to the national health insurance including the medical aid program (n = 423)
3. Atrial fibrillation or arrhythmia diagnosed more than twice during the 3 years prior to CABG (n = 2,265)

Final study cohort (n = 27,545)

**Female
(n = 7,561)**

**Male
(n = 19,984)**

- Index date
 - The admission date for the first-time isolated CABG
- Primary outcome
 - Incidence of new-onset AF following CABG
- Secondary outcomes
 - Mortality: short- and long-term
 - Stroke: short-term

- Table 1. Baseline characteristics

	Total (n = 27,545)	Female (n = 7,561)	Male (n = 19,984)	p value		Total (n = 27,545)	Female (n = 7,561)	Male (n = 19,984)	p value
Age (median, IQR) (year)	61.0 (53.0-67.0)	64.0 (58.0-69.0)	59.0 (51.0-65.0)	< 0.001	Income (Below 25 th percentile) (%)	21.1	24.6	19.8	< 0.001
Previous PCI (%)	10.5	10.7	10.5	0.567	Smoking (%)				< 0.001
Previous CPR (%)	0.6	0.7	0.6	0.189	Ex-smoker	32.3	1.9	42.8	
Comorbidities (%)					Current smoker	16.0	2.7	20.6	
Hypertension	48.3	48.4	48.2	0.766	Alcohol (%)				< 0.001
Diabetes mellitus	37.0	37.0	37.0	0.955	Three or less times a week	20.0	3.7	25.5	
Dyslipidemia	51.1	51.3	51.0	0.746	Four or more times a week	4.5	0.5	5.9	
Acute myocardial infarction	17.4	17.1	17.5	0.413	Number of bypassed coronary arteries (%)				0.265
Stroke	11.3	12.3	11.0	0.004	One	7.7	8.0	7.6	
Chronic kidney disease	5.8	5.3	6.0	0.043	Two or more	92.3	92.0	92.4	

Follow-up duration: 7.1 (IQR, 4.2–10.2) years

- Table 2. Incidence of new-onset AF following CABG

AF (%)	Total (n = 27,545)	Female (n = 7,561)	Male (n = 19,984)	HR (95% CI) [Reference: Male]	p value
1-month	3.6	3.3	3.7	0.71 (0.62 – 0.83)	< 0.001
3-month	5.6	5.3	5.7	0.75 (0.67 – 0.85)	< 0.001
6-month	6.5	6.1	6.6	0.76 (0.68 – 0.85)	< 0.001
1-year	7.4	7.1	7.5	0.79 (0.71 – 0.87)	< 0.001

- Multivariable models were adjusted for preoperative variables

- Table 3. Mortality and new-onset stroke according to the occurrence of new-onset AF following CABG

	Total (n = 27,545)	AF (n = 2,044)	Non-AF (n = 25,501)	HR (95% CI) [Ref: Non-AF]	p value		AF (n = 2,044)	Female (n = 540)	Male (n = 1,504)	HR (95% CI) [Ref: Male]	p value
Mortality (%)						Mortality (%)					
1-month	3.0	0.3	3.2	0.09 (0.04 – 0.19)	< 0.001	1-month	0.3	0.4	0.3	0.76 (0.10 – 5.56)	0.787
3-month	4.6	3.6	4.6	0.64 (0.50 – 0.80)	< 0.001	3-month	3.6	2.8	3.9	0.62 (0.35 – 1.11)	0.110
6-month	5.9	6.6	5.8	0.93 (0.77 – 1.10)	0.386	6-month	6.6	5.2	7.1	0.62 (0.40 – 0.95)	0.027
1-year	7.4	10.2	7.2	1.16 (1.003 – 1.34)	0.046	1-year	10.2	8.7	10.8	0.73 (0.52 – 1.01)	0.060
3-year	12.4	19.5	11.9	1.35 (1.22 – 1.50)	< 0.001	3-year	19.5	17.8	20.1	0.73 (0.58 – 0.93)	0.009
5-year	17.7	27.0	16.9	1.35 (1.24 – 1.48)	< 0.001	5-year	27.0	25.9	27.3	0.76 (0.63 – 0.93)	0.008
10-year	28.3	40.7	27.3	1.37 (1.27 – 1.47)	< 0.001	10-year	40.7	41.1	40.6	0.76 (0.65 – 0.89)	< 0.001
Stroke (%)						Stroke (%)					
1-month	5.3	7.1	5.2	1.43 (1.21 – 1.70)	< 0.001	1-month	7.1	7.4	7.1	0.95 (0.65 – 1.39)	0.781
3-month	5.9	8.2	5.7	1.48 (1.26 – 1.74)	< 0.001	3-month	8.2	8.0	8.2	0.83 (0.58 – 1.19)	0.313
6-month	6.4	9.5	6.2	1.59 (1.37 – 1.85)	< 0.001	6-month	9.5	9.4	9.6	0.85 (0.61 – 1.19)	0.344
1-year	7.2	10.9	6.9	1.64 (1.42 – 1.88)	< 0.001	1-year	10.9	10.7	10.9	0.86 (0.63 – 1.18)	0.357

- The occurrence of new-onset AF following CABG was lower in females than in males.
- The effect of post-CABG AF on long-term survival had a significant difference between the sexes.
- There was no significant difference between the sexes in the incidence of postoperative stroke within one year in patients with new-onset AF following CABG.