



Hemodynamic Changes After Wire Frame Occluders vs. Metal Mesh Devices for Atrial Septal Defect

Mitsutaka Nakashima, MD, PhD; Yoichi Takaya, MD, PhD; Kentaro Ejiri, MD, PhD;
Takashi Miki, MD, PhD; Rie Nakayama, MD, PhD; Koji Nakagawa, MD, PhD;
Teiji Akagi, MD, PhD; Kazufumi Nakamura, MD, PhD, FJCS; Shinsuke Yuasa, MD, PhD

Supplemental Materials

- **Supplementary Table.** Baseline Clinical Characteristics After Propensity Score Matching Which Was Calculated by Adding the Presence of Diuretic Use
- **Supplementary Figure 1.** Comparison of prevalences in residual shunt between GCA group and control group after the stabilized the inverse probability of treatment weights.
- **Supplementary Figure 2.** Change in BNP concentrations after the stabilized the inverse probability of treatment weights.
- **Supplementary Figure 3.** Comparison of prevalences in residual shunt after the propensity score matching which was calculated by adding the presence of diuretics use before procedure.
- **Supplementary Figure 4.** Change in BNP concentrations after the propensity score matching which was calculated by adding the presence of diuretics use before procedure.

Supplementary Table. Baseline Clinical Characteristics After Propensity Score Matching Which Was Calculated by Adding the Presence of Diuretic Use

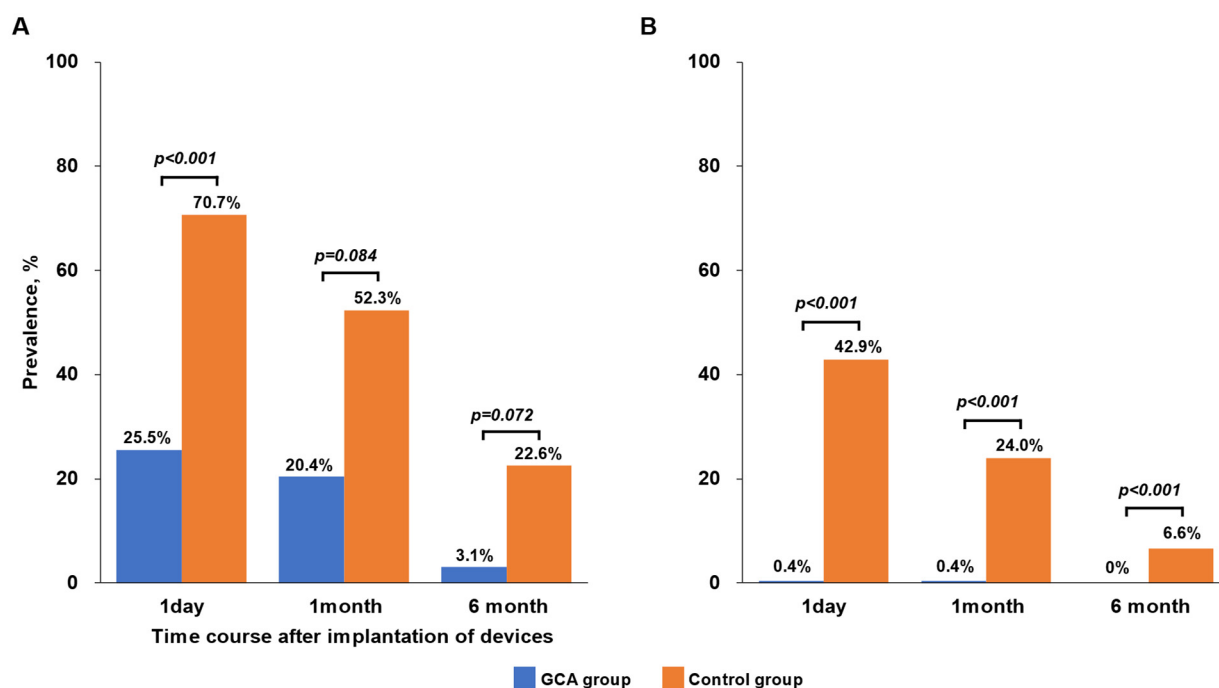
Variables	After propensity score matching		
	GCA group	Control group	SMD
N	44	44	
Age, years	50 ± 19	48 ± 20	0.12
Male	18 (40.9)	20 (45.5)	0.09
Persistent Atrial fibrillation	0 (0.0)	0 (0.0)	<0.01
Diuretics use	5 (11.4)	5 (11.4)	<0.01
BNP, pg/mL *	3.2 ± 1.3	3.1 ± 1.4	0.086
<i>Echocardiography</i>			
ASD diameter, mm	14.3 ± 4.2	14.4 ± 5.6	0.03
Aortic rim deficiency	37 (84.1)	36 (81.8)	0.06
LAD, mm	35.8 ± 5.8	35.2 ± 6.7	0.10
LV end-diastolic diameter, mm	41.5 ± 5.2	42.0 ± 5.5	0.10
LV end-systolic diameter, mm	26.8 ± 4.0	26.8 ± 4.8	0.01
LVEF, %	65.9 ± 4.6	66.3 ± 7.1	0.07
E/e' ratio *	2.1 ± 0.3	2.1 ± 0.3	0.09
TRPG, mmHg *	3.2 ± 0.3	3.2 ± 0.3	0.08
RA area, cm ² *	3.0 ± 0.2	3.0 ± 0.3	0.16
RV basal diameter *	3.8 ± 0.1	3.8 ± 0.1	0.10
RV mid diameter *	3.6 ± 0.1	3.6 ± 0.2	0.05
<i>Hemodynamic parameters</i>			
QpQs	1.9 ± 0.5	1.9 ± 0.6	0.01
Mean PAP, mmHg *	2.7 ± 0.3	2.7 ± 0.3	0.16
PVR, dyn s cm ⁻⁵ *	4.4 ± 0.6	4.5 ± 0.6	0.04
LAP, mmHg	7.5 ± 2.5	7.6 ± 2.3	0.02
RAP, mmHg *	1.6 ± 0.5	1.7 ± 0.6	0.10

Data are presented as the number (%), mean ± standard deviation.

GCA, GORE® CARDIOFORM ASD occluder; SMD, standardized mean difference; BNP, brain natriuretic peptide; ASD, atrial septal defect; LAD, left atrial diameter; LV, left ventricular; LVEF, left ventricular ejection fraction; E/e', early diastolic filling velocity/early diastolic velocity of the mitral annulus; TRPG, tricuspid regurgitation pressure gradient; RA, right atrial; RV, right ventricular; QpQs, pulmonary-to-systemic blood flow ratio; PAP, pulmonary artery pressure; PVR, pulmonary vascular resistance; LAP, left atrial pressure; RAP, right atrial pressure.

*Values are logarithm-transformed.

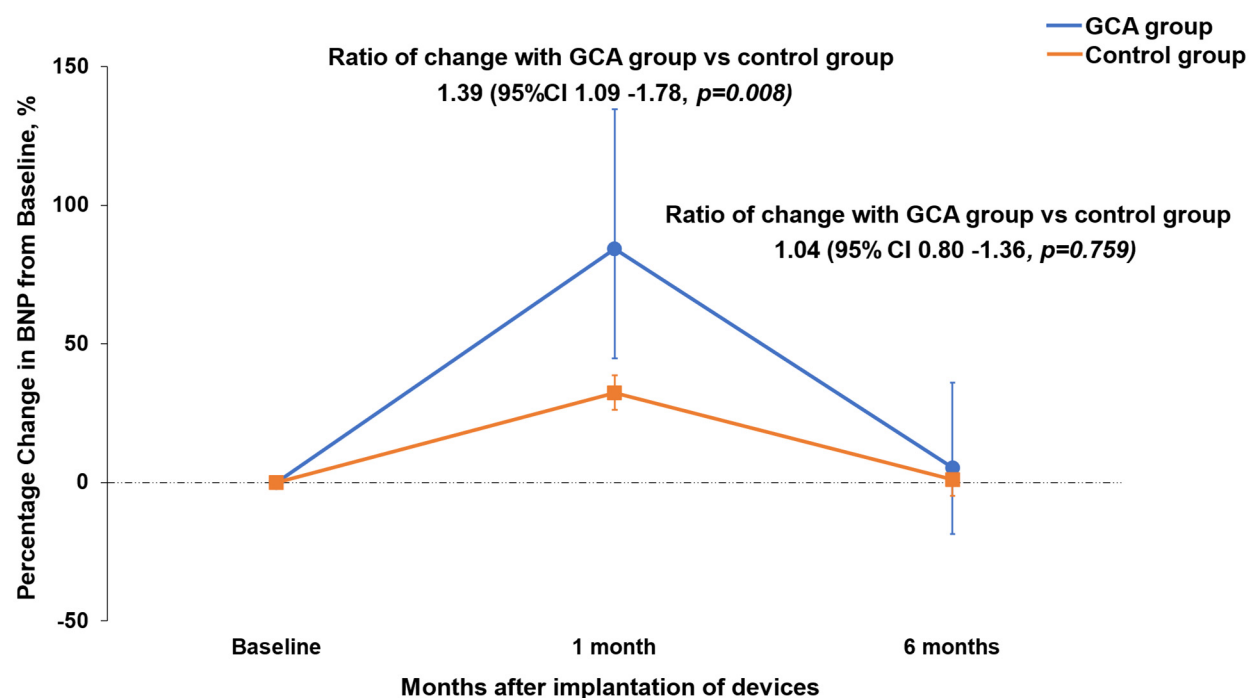
Supplementary Figure 1. Comparison of prevalences in residual shunt between GCA group and control group after the stabilized the inverse probability of treatment weights.



The prevalences of residual shunt (**A**) and large residual shunt (**B**) in both group at one day, one month and six months after implantation of closure devices. All p values were adjusted by Bonferroni correction to avoid statistical multiplicity.

GCA, GORE® CARDIOFORM ASD occluder.

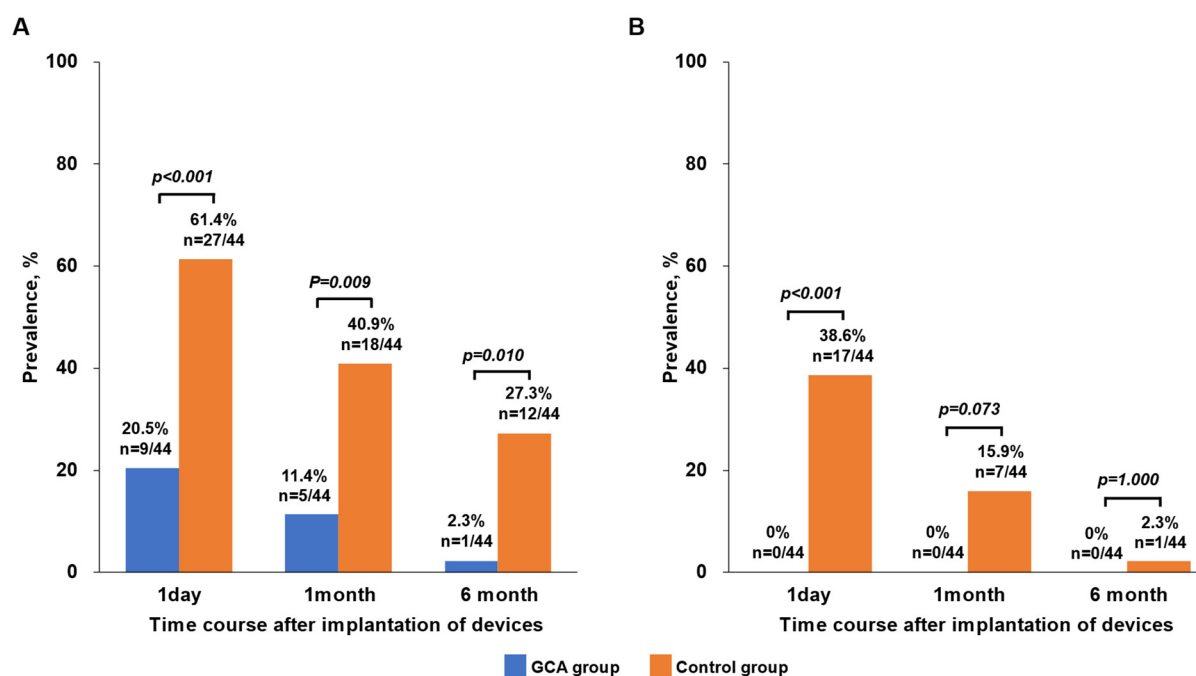
Supplementary Figure 2. Change in BNP concentrations after the stabilized the inverse probability of treatment weights.



The time course percentage change in BNP from baseline of GCA group and control group. Ratio of change with GCA group vs control group was significant at one month, whereas that is not significant at six months.

GCA, GORE® CARDIOFORM ASD occluder.

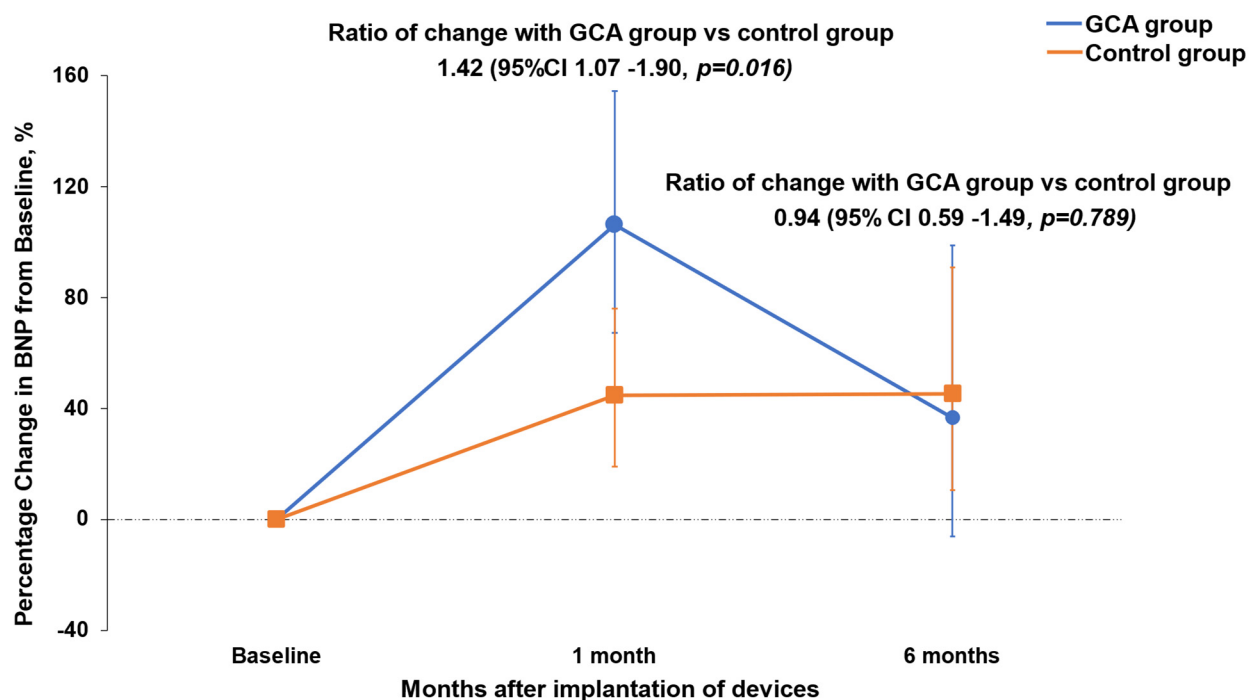
Supplementary Figure 3. Comparison of prevalences in residual shunt after the propensity score matching which was calculated by adding the presence of diuretics use before procedure.



The prevalences of residual shunt (**A**) and large residual shunt (**B**) in both group at one day, one month and six months after implantation of closure devices. All p values were adjusted by Bonferroni correction to avoid statistical multiplicity.

GCA, GORE® CARDIOFORM ASD occluder.

Supplementary Figure 4. Change in BNP concentrations after the propensity score matching which was calculated by adding the presence of diuretics use before procedure.



The longitudinal change in BNP from baseline of GCA group and control group. Ratio of change with GCA group vs control group was significant at one month, whereas that is not significant at six months.

GCA, GORE® CARDIOFORM ASD occluder.