



**Supplementary Figure 1.** Inclusion and exclusion of participants.

**Supplementary Table S1.** Comparison of Vaccinated and Unvaccinated Subject

Item	Vaccinated (N = 96)		Unvaccinated (N = 32)	
	N	Percent	N	N
<b>Age</b>				
12–19	17	17.7%	14	43.7%
20–29	24	25.0%	3	9.4%
30–39	12	12.5%	5	15.6%
40–49	18	18.8%	9	28.1%
50–59	22	22.9%	1	3.1%
60–	3	3.1%	0	0%
<b>Sex</b>				
Female	53	55.2%	14	43.8%
Male	43	44.8%	18	56.3%
<b>Type of vascular malformations</b>				
Hemangioma	23	24.0%	9	28.1%
VM	43	58.3%	13	40.7%
CM	5	5.2%	3	9.4%
AVM	36	37.5%	11	34.4%
LM	10	10.4%	6	18.8%
KTWS	7	7.3%	3	9.4%
BRBNS	0	0%	2	6.3%
Unknown	1	1.0%	0	0%
<b>Location of vascular malformations</b>				
Head and neck	23	24.0%	9	28.1%
Upper extremities	18	18.8%	4	12.5%
Trunk	13	13.5%	6	18.8%
Lower extremities	57	59.3%	17	53.1%
Viscera	2	2.1%	1	3.1%
Systemic	0	0%	2	6.3%
<b>Medical history</b>				

COVID-19 infection	2	2.1%	0	0%
Hypertension	6	6.3%	1	3.1%
Diabetes mellitus	3	3.1%	0	0%
Asthma	14	14.6%	5	15.6%
Seizure	4	4.2%	0	0%
Stroke	2	2.1%	1	3.1%
Heart disease	0	0%	3	9.4%
Thromboembolism	7	7.3%	5	15.6%
Coagulation abnormalities	1	1.0%	3	9.4%
Malignancy	3	3.1%	1	3.1%
Others	6	6.3%	2	6.3%
None of the above	58	60.4%	16	50.0%
<b>Allergy</b>				
Hay fever	3	3.1%	1	3.1%
Contrast agents	5	5.2%	1	3.1%
Others	12	12.5%	7	21.9%
None of the above	78	81.3%	25	78.1%
<b>Medication</b>				
Antithrombotic drug	5	5.2%	7	21.9%
Sirolimus	3	3.1%	3	9.4%
Immunosuppressor	1	1.0%	2	6.3%
Beta blocker	1	1.0%	1	3.1%
Others	26	27.1%	6	18.8%
None of the above	60	62.5%	20	62.5%

VM: venous malformation; CM: capillary malformation; AVM: arteriovenous malformation; LM: lymphatic malformation; KTWS: Klippel–Trenaunay syndrome/Parkes–Weber syndrome; BRBNS: blue rubber bleb nevus syndrome

**Supplementary Table S2.** Reasons for not taking vaccinations

Reasons	Total (N = 32)	
	N	Percent
Concerns about the vaccine adverse reactions by subjects themselves	24	77.4%
Concerns about embolism or venous thrombosis after vaccinations by subjects themselves	4	12.9%
Concerns about the vaccine adverse reactions by others	4	12.9%
Others	3	9.7%
No reply	1	3.1%

**Supplementary Table S3.** Reported adverse reactions of each type of vascular malformations following SARS-CoV-2 vaccine dose 1

	Total (N = 96)		Hemangioma (N = 23)		VM (N = 43)		CM (N = 5)		AVM (N = 36)		LM (N = 10)		KT/PW (N = 7)	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
<b>General adverse reactions</b>														
At least one adverse reaction	84	87.5%	18	78.3%	37	86.0%	5	100%	32	88.9%	9	90.0%	7	100%
Pain at the injected site	69	71.9%	14	60.9%	31	72.1%	5	100%	26	72.2%	8	80.0%	6	85.7%
Swelling at the injected site	26	27.1%	7	30.4%	15	34.9%	3	60.0%	9	25.0%	6	60.0%	3	42.9%
Induration at the injected site	9	9.4%	3	13.0%	3	7.0%	0	0%	4	11.1%	2	20.0%	1	14.3%
Itching at the injected site	7	7.3%	5	21.7%	3	7.0%	1	20.0%	2	5.6%	2	20.0%	1	14.3%
Fever	21	21.9%	3	13.0%	10	23.3%	3	60.0%	10	27.8%	3	30.0%	1	14.3%
Sore muscles	15	15.6%	4	17.4%	8	18.6%	0	0%	8	22.2%	1	10.0%	1	14.3%
Arthralgia	7	7.3%	2	8.7%	5	11.6%	0	0%	3	8.3%	1	10.0%	0	0%
Headache	21	21.9%	4	17.4%	8	18.6%	0	0%	9	25%	3	30.0%	2	28.6%
Fatigue	6	6.3%	1	4.3%	4	9.3%	0	0%	3	8.3%	1	10.0%	0	0%
Anaphylaxis	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Thromboembolism	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Others	1	1.0%	0	0%	0	0%	0	0%	1	2.8%	0	0%	0	0%
<b>Adverse reactions related to vascular malformations</b>														
At least one adverse reaction	17	17.7%	4	17.4%	8	18.6%	1	20.0%	8	22.2%	3	30.0%	2	28.6%
Pain at the lesion site	16	16.7%	4	17.4%	8	18.6%	1	20.0%	7	19.4%	3	30.0%	2	28.6%
Redness at the lesion site	2	2.1%	1	4.3%	2	4.7%	1	20.0%	2	5.6%	1	10.0%	0	0%
Swelling at the lesion site	5	5.2%	2	8.7%	5	11.6%	1	20.0%	2	5.6%	2	20.0%	0	0%
Enlargement at the lesion site	1	1.0%	0	0%	1	2.3%	1	20.0%	1	2.8%	0	0%	0	0%
Thrombosis at the lesion site	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Others	1	1.0%	0	0%	0	0%	0	0%	1	2.8%	0	0%	0	0%

VM: venous malformation; CM: capillary malformation; AVM: arteriovenous malformation; LM: lymphatic malformation; KT/PW: Klippel–Trenaunay syndrome/Parkes–Weber syndrome

**Supplementary Table S4.** Reported adverse reactions of each type of vascular malformations following SARS-CoV-2 vaccine dose 2

	Total (N = 94)		Hemangioma (N = 23)		VM (N = 41)		CM (N = 5)		AVM (N = 36)		LM (N = 9)		KT/PW (N = 7)	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
<b>General adverse reactions</b>														
At least one adverse reaction	84	89.4%	17	77.3%	35	85.4%	5	100.0%	33	91.7%	8	88.9%	7	100%
Pain at the injected site	71	75.5%	13	59.1%	30	73.2%	5	100.0%	30	83.3%	7	77.8%	5	71.4%
Swelling at the injected site	33	35.1%	8	36.4%	20	48.8%	3	30.0%	10	27.8%	7	77.8%	2	28.6%
Induration at the injected site	9	9.6%	3	13.6%	3	7.3%	1	20.0%	4	11.1%	3	33.3%	1	14.3%
Itching at the injected site	10	10.6%	4	18.2%	4	9.8%	1	20.0%	3	8.3%	2	22.2%	2	28.6%
Fever	51	54.3%	9	40.9%	2	51.2%	3	60.0%	21	58.3%	5	55.6%	5	71.4%
Sore muscles	23	24.5%	3	13.6%	10	24.4%	1	20.0%	12	33.3%	1	11.1%	2	28.6%
Arthralgia	23	24.5%	4	18.2%	9	22.0%	1	20.0%	11	30.6%	4	44.4%	1	14.3%
Headache	26	27.7%	5	22.7%	11	26.8%	0	0.0%	12	33.3%	3	33.3%	2	28.6%
Fatigue	13	13.8%	2	9.1%	4	9.8%	0	0.0%	8	22.2%	1	11.1%	1	14.3%
Anaphylaxis	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Thromboembolism	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Others	1	1.1%	0	0%	0	0%	0	0.0%	1	2.8%	0	0%	0	0%
<b>Adverse reactions related to vascular malformations</b>														
At least one adverse reaction	15	16.0%	4	18.2%	7	17.1%	1	20.0%	6	16.7%	2	22.2%	3	42.9%
Pain at the lesion site	14	14.9%	4	18.2%	7	17.1%	1	20.0%	5	13.9%	1	11.1%	3	42.9%
Redness at the lesion site	4	4.3%	0	0%	1	2.4%	1	20.0%	2	5.6%	1	11.1%	2	28.6%
Swelling at the lesion site	6	6.4%	2	9.1%	4	9.8%	1	20.0%	3	8.3%	2	22.2%	1	14.3%
Enlargement at the lesion site	3	3.2%	1	4.5%	2	4.9%	1	20.0%	2	5.6%	1	11.1%	1	14.3%
Thrombosis at the lesion site	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Others	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

VM: venous malformation; CM: capillary malformation; AVM: arteriovenous malformation; LM: lymphatic malformation; KT/PW: Klippel–Trenaunay syndrome/Parkes–Weber syndrome