

SUPPLEMENTAL MATERIAL

Supplementary table 1. Number of children and the corresponding number of aortic stenosis cases.

Nr of children	Number of siblings with AS				Total (N) Percentage of total AS cases
	1	2	3	4	
2	5539	138	0	0	5677
	41.21	1.03	0.00	0.00	42.23%
	97.57	2.43	0.00	0.00	
3	3618	180	3	0	3801
	26.92	1.34	0.02	0.00	28.28%
	95.19	4.74	0.08	0.00	
4	1857	116	3	0	1976
	13.81	0.86	0.02	0.00	14.70%
	93.98	5.87	0.15	0.00	
5	880	78	6	0	964
	6.55	0.58	0.04	0.00	7.17%
	91.29	8.09	0.62	0.00	
6	441	36	3	0	480
	3.28	0.27	0.02	0.00	3.57%
	91.88	7.50	0.63	0.00	
7	215	24	9	0	248
	1.60	0.18	0.07	0.00	1.84%
	86.69	9.68	3.63	0.00	
8	113	26	0	4	143
	0.84	0.19	0.00	0.03	1.06%
	79.02	18.18	0.00	2.80	
9	61	4	6	0	71
	0.45	0.03	0.04	0.00	0.53%
	85.92	5.63	8.45	0.00	
10	42	4	0	0	46
	0.31	0.03	0.00	0.00	0.34%
	91.30	8.70	0.00	0.00	
11	19	10	0	0	29
	0.14	0.07	0.00	0.00	0.22%
	65.52	34.48	0.00	0.00	

12	4 0.03 100.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	4 0.03%
13	2 0.01 100.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	2 0.01%
14	1 0.01 100.00	0 0.00 0.00	0 0.00 0.00	0 0.00 0.00	1 0.01%
Total	12792 95.16	616 4.58	30 0.22	4 0.03	13442 100.00%

Supplementary Table 2. Number of AS cases by ICD-code.

	Events		Median age	Mean age
	No.	%		
Total events	13442		61	55.2 ± 18.9
Aortic valvular stenosis (I35.0)	9103	67.7	64	61.8 ± 10.6
Aortic valvular stenosis with aortic regurgitation (I35.2)	2469	18.4	60	57.3 ± 12.8
Rheumatic aortic valvular stenosis (I06.0)	120	0.9	60	57.5 ± 10.4
Rheumatic aortic valvular stenosis with aortic regurgitation (I06.2)	109	0.8	58	54.7 ± 13.5
Congenital aortic valvular stenosis (Q23.0)	1641	12.2	12	15.3 ± 14.3

Supplementary table 3. Risk of aortic stenosis with a sibling history of AS, excluding congenital AS.

N	HR	95% CI
620	3.58	2.33 – 5.49

Adjusted for gender, birth year, and family size. Cases of congenital AS (ICD-10 Q230) were excluded.

Supplementary Table 4. Risk of AS with a sibling history of AS stratified by age.

Age at diagnosis	N	HR	95% CI
<20	17	9.61	4.14 - 22.34
20-39	6	1.91	0.60 - 6.07
40-49	23	2.47	1.15 - 5.32
50-59	122	3.15	1.85 - 5.36
60-69	314	3.12	1.97 - 4.96
≥70	169	3.04	1.84 - 5.03

Adjusted for gender, birth year, and family size, and comorbidities. AS: Aortic stenosis. N: number of AS cases.

Supplementary Table 5. Number of cases and incidence rate of AS by birth**order**

Birth order	Population		AS events		Incidence rate*
	No.	%	No.	%	(per 100 000 person years)
First	2410115	39.4	4967	37.0	26.1
Second	2410115	39.4	4870	36.2	25.9
Third	882931	14.4	2107	15.7	26.4
Fourth	261649	4.3	862	6.4	27.0
Fifth or later	152453	2.5	636	4.7	29.5
All	6117263	100.0	13442	100.0	26.2

*: Adjusted for European standardized population

Supplementary Figure 1. Kaplan-Meier curves for visual inspection of the proportional hazards assumption.

