

Absence of the spleen and the occurrence of primary red cell alloimmunization in humans

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Online Supplementary Material

Table S1. Characteristics of 1,010 non-alloimmunized sampled controls during the alloimmunization risk period according to a history of splenectomy.

Characteristics	Splenectomized (N=19)	Non-splenectomized (N=991)	Missing	Possible confounder Y/N
General				
Men	12 (63.2)	556 (56.1)	0 (0)	Y
Age in years (median, IQR)	58.0 (38.5-74.3)	65.2 (51.9-75.1)	0 (0)	Y
Cumulative (lifetime) number of red cell units up till implicated transfusion (median, IQR)	4 (2-14)	4 (2-8)	0 (0)	NA
Diagnoses				
Atherosclerosis *	4 (21.1)	310 (31.3)	13 (1.3)	Y
Diabetes mellitus type 1	0 (0)	7 (0.7)	0 (0)	N
Diabetes mellitus type 2	4 (21.1)	172 (17.4)	1 (0.1)	Y
GFR ≤ 30 ml/min †	2 (10.5)	147 (14.8)	0 (0)	Y
Dialysis (chronic or acute) ‡	2 (10.5)	96 (9.7)	0 (0)	N
Chronic obstructive airway disease §	2 (10.5)	87 (8.8)	19 (1.9)	N
Organ transplant (in past or during risk period)	0 (0)	33 (3.3)	0 (0)	Y
Liver cirrhosis	0 (0)	24 (2.4)	2 (0.2)	N
Hematological malignancy	1 (5.3)	209 (21.1)	5 (0.5)	Y
Carcinoma	3 (15.8)	180 (18.2)	5 (0.5)	N
Sarcoma	3 (15.8)	15 (1.5)	1 (0.1)	Y
Interventions				
ICU admission	15 (78.9)	354 (35.7)	0 (0)	Y
days at ICU (median, IQR)	3 (1-8)			
Surgery				
thoracic, including CABG	3 (15.8)	141 (14.2)	0 (0)	N
abdominal	17 (89.5)	164 (16.5)	0 (0)	Y
back or spinal cord	1 (5.3)	10 (1.0)	0 (0)	Y
Immunosuppressant medication	9 (47.4)	414 (41.8)	13 (1.3)	Y
Chemotherapy	0 (0)	215 (21.7)	4 (0.4)	Y
Radiotherapy	0 (0)	37 (3.7)	0 (0)	Y
Hematopoietic stem cell transplantation (in past or during risk period) ¶	1 (5.3)	63 (6.4)	0 (0)	N
Treatment-related complications				
Leukopenia **	5 (26.3)	303 (30.6)	24 (2.4)	Y
Infections				
(tissue-invasive) severe bacterial ††	8 (42.1)	161 (16.2)	32 (3.2)	Y
Gram-positive bacteremia	1 (5.3)	82 (8.3)	7 (0.7)	Y
Gram-negative bacteremia	1 (5.3)	43 (4.3)	0 (0)	N
disseminated viral ‡‡	1 (5.3)	19 (1.9)	0 (0)	Y

Values are n (%), unless otherwise stated. Numbers of patients for whom data on certain conditions were not documented are presented as missing. Covariates were identified as a possible confounder of splenectomy when considered to be a potential risk factor for alloimmunization and being

associated with splenectomy among the source population (i.e. represented by the sampled controls). An association with splenectomy was considered present in case of a $\geq 3\%$ difference in covariate presence between controls exposed and controls.

IQR = interquartile range. NA = not applicable, as this represents a matched variable.

*, †, ‡, §, ||, ¶, **, ††, ‡‡: definitions of variables as described in table S1.