

**Supplementary Table 1: Clinical characteristics of RS infants by country of birth**

Characteristic (n, %)	Data available (n)	Country*				All RS cases	p-value†
		England and Wales n=130	Scotland n=22	ROI n=15	Northern Ireland n=6		
Female sex	173	67 (52%)	10 (45%)	7 (47%)	5 (83%)	89 (51%)	0.411
White ethnic group	167	100 (77%)	21 (95%)	14 (93%)	6 (100%)	141 (84%)	0.209
Preterm birth	173	17 (13%)	4 (18%)	1 (7%)	0	22 (13%)	0.73
Non-isolated RS	172	59 (45%)	13 (59%)	9 (60%)	0	81 (47%)	0.075
Hospital admission	172	118 (91%)	22 (100%)	14 (100%)	6 (100%)	160 (93%)	0.361
UAO of any severity	173	115 (88%)	22 (100%)	15 (100%)	5 (83%)	157 (91%)	0.14
Severe UAO	173	12 (9%)	5 (23%)	2 (13%)	0	19 (11%)	0.24
<b>Characteristic (median, IQR)</b>							<b>p-value ‡</b>
Birth weight, grams	171	3193 (810)	3130 (1014)	3255 (733)	3320 (610)	3200 (800)	0.937
Gestation, weeks	173	39 (3)	39 (3)	39 (2)	39 (2)	39 (2)	0.97

ROI = Republic of Ireland, RS = Robin sequence, UAO = upper airway obstruction, IQR = interquartile range

\*Statistically significant at  $p < 0.05$ .

† Compared using Chi-square or Fisher-Freeman-Halton Exact tests.

‡ Compared using Kruskal Wallis test.

**Supplementary Table 2: Chromosomal abnormalities in cases of non-isolated RS (*n* = 18)**

Mutation type	Mutation description
Duplication	1q duplication (n=2) 11q24-q25 duplication and 11q25 deletion Xp22.31 duplication Chromosome 15 inverted duplication Chromosome 7 duplication
Deletion	2q32 deletion FKBP14 gene deletion (chromosome 7p14.3) Chromosome 2 deletion 16p12.1 deletion 8p11.21 deletion 16p11.2 deletion 1q21 deletion
Translocation	Chromosome 4:20 translocation Chromosome 6:16 unbalanced translocation
Aneuploidy	Trisomy 22 Trisomy 13
Other	Chromosome 18 mutation (NOS) NOS=not otherwise specified

*NOS = not otherwise specified*

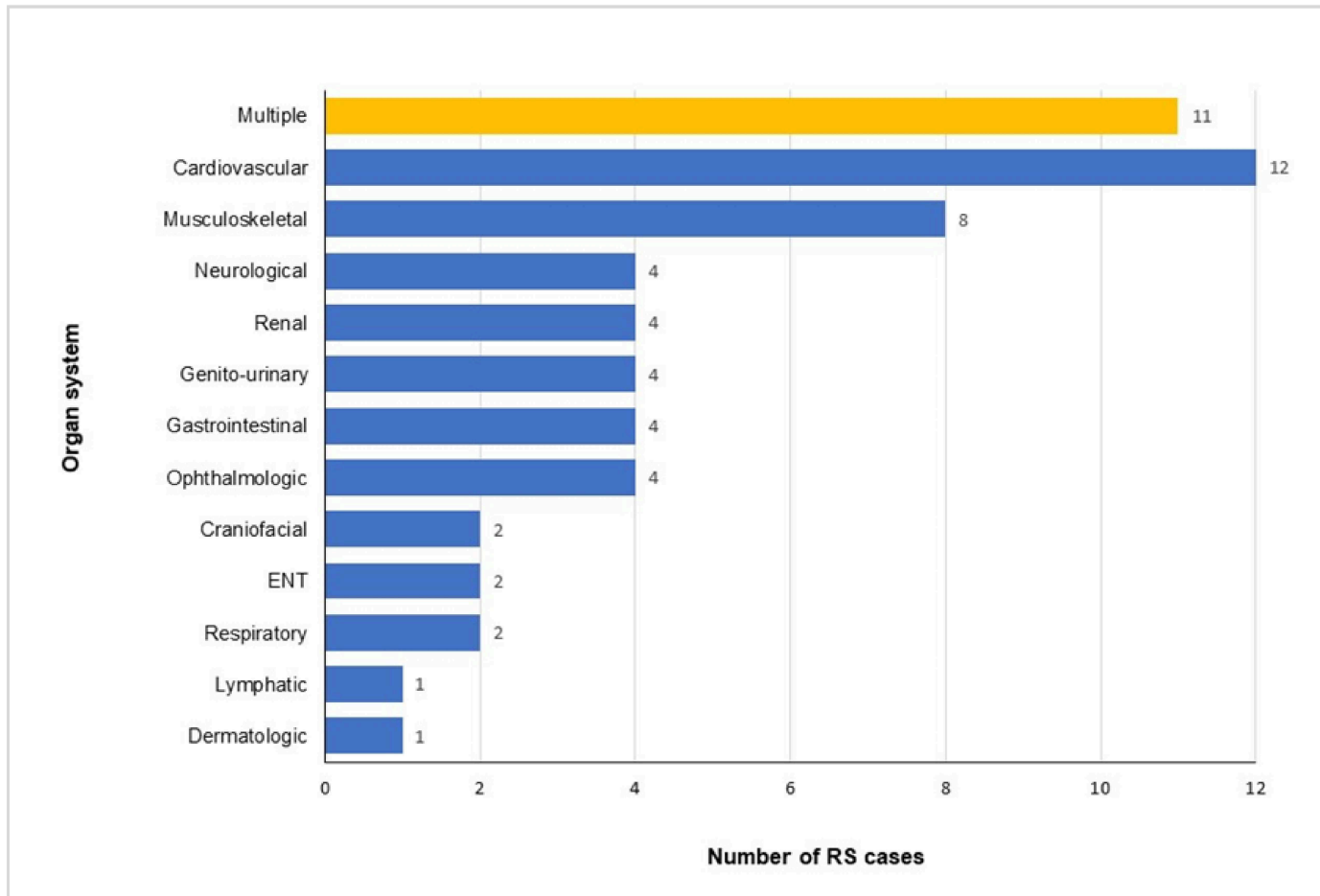
**Supplementary Table 3: Maternal and antenatal features of infants with RS**

	Data available ( <i>n</i> , %)	Number	% RS cases
Antenatal diagnoses			
Antenatal diagnosis of RS	160 (92%)	24	15%
Pregestational diabetes	116 (67%)	6	5%
Intrauterine exposures			
Cigarette smoking	105 (61%)	25	24%
Alcohol consumption (>4 units/week)	107 (62%)	7	7%
Medications (prescribed or non-prescribed)	108 (62%)	20	19%
Opiate, Metformin		5	
Aspirin		4	
Heparin		43	
SSRI, beta blocker, insulin		2	
Other ( <i>n</i> =1 per drug)		6	
Multiple agents		7	
Antenatal ultrasound findings			
Polyhydramnios	131 (76%)	8	6%
Oligohydramnios	131 (76%)	4	3%
Micrognathia	131 (76%)	13	10%
Cleft palate †	131 (76%)	2	2%
Glossoptosis †	131 (76%)	1	1%

RS = Robin sequence

†Glossoptosis and cleft palate seen together on ultrasound in one case

Supplementary Figure 1: Affected organ systems in cases of non-isolated RS with multiple congenital anomalies (n=28)



ENT = Ear, nose and throat surgery