GENETIC IMBALANCES IN ARGENTINEAN PATIENTS WITH CONGENITAL CONOTRUNCAL HEART DEFECTS

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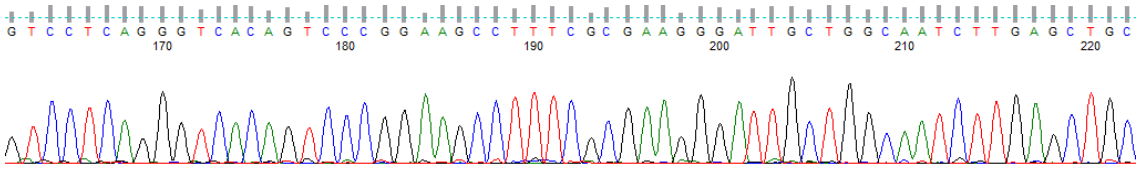
SUPPLEMENTARY MATERIAL

Figure S1. Representative partial electropherogram of exon 7 of the *TBX1* gene from patient # 52.



The sequence shown corresponds to the MLPA P250 kit *TBX1* probe 10810-L14347 hybridization region.

Table S1 Phenotype and chromosomal imbalances found in CCHD patients

Patient	Gender	CHD	Additional clinical features	Cytoband	Chromosome region (hg18)	Event	Probes (n)
Typical 22q11.21 deletion							
1	M	TOF	Dysplasic ear and hooding of the upper lids	22q11.21	chr22:17621597 -19679261	Del	14
2	M	IAA	Ocular hypertelorism and dysplasic ear, small thymus	22q11.21	chr22:17621597 -19679261	Del	14
3	M	IAA	Blepharophymosis, epicanthal folds, bulbous nose, dysplastic ears, cleft palate, long fingers, umbilical hernia, hypocalcemia, hypothyroidism and neurodevelopmental delay	22q11.21	chr22:17621597 -19679261	Del	14

Patient	Gender	CHD	Additional clinical features	Cytoband	Chromosome region (hg18)	Event	Probes (n)
4	M	IAA	Pierre Robin sequence (submucosal cleft palate, glossoptosis, retrognathia), blepharophymosis, straight and short bridge nose, short and marked filtrum, fine and long fingers	22q11.21	chr22:17621597 -19679261	Del	14
5	M	PA + VSD	Thymus agenesis, dysplastic ears, bulbous nose	22q11.21	chr22:17621597 -19679261	Del	14
6	M	PA + VSD	Dysplastic ears	22q11.21	chr22:17621597 -19679261	Del	14
7	M	PTA		22q11.21	chr22:17621597 -19679261	Del	14
8	F	PA + VSD		22q11.21	chr22:17621597 -19679261	Del	14
9	M	TOF	Complete cleft palate	22q11.21	chr22:17621597 -19679261	Del	14
10	F	TOF	Complete cleft palate	22q11.21	chr22:17621597 -19679261	Del	14
11	M	PA + VSD	Unilateral renal hypoplasia	22q11.21	chr22:17621597 -19679261	Del	14
12	M	PA + VSD	Developmental delay,velopharyngeal incompetence, hemihypoplastic tongue	22q11.21	chr22:17621597 -19679261	Del	14
13	F	TOF		22q11.21	chr22:17621597 -19679261	Del	14
14	M	PA + VSD		22q11.21	chr22:17621597 -19679261	Del	14
15	M	IAA + sVSD		22q11.21	chr22:17621597 -19679261	Del	14
16	F	PTA + AVSD		22q11.21	chr22:17621597 -19679261	Del	14
17	F	PA+VSD + Hypoplasic pulmonary branches	Cleft lip	22q11.21	chr22:17621597 -19679261	Del	14
18	M	TOF		22q11.21	chr22:17621597 -19679261	Del	14
19	F	PA + VSD	Unilateral microtia, pilonidal sinus	22q11.21	chr22:17621597 -19679261	Del	14
20	F	PTA	Proptosis, absence of eyebrows, microstomia, retrognathia, long thumbs. developmental delay, seazures, feeding problems, rectovesical fistula, Unilateral lower limb reduction	22q11.21	chr22:17621597 -19679261	Del	14

Patient	Gender	CHD	Additional clinical features	Cytoband	Chromosome region (hg18)	Event	Probes (n)
21	F	PA + VSD		22q11.21	chr22:17621597 -19679261	Del	14
22	M	IAA + VSD		22q11.21	chr22:17621597 -19679261	Del	14
23	F	PA + VSD	Blepharophymosis, bulbous nose, microstomia, long and thin toes	22q11.21	chr22:17621597 -19679261	Del	14
24	M	TOF		22q11.21	chr22:17621597 -19679261	Del	14
25	F	TOF	Thymus agenesis	22q11.21	chr22:17621597 -19679261	Del	14
26	M	TOF	Developmental delay, blepharophymosis with upslanting palpebral fissure, wide nose, small mouth, dysplastic ears, short neck and tapering fingers.	22q11.21	chr22:17621597 -19679261	Del	14
27	M	TOF	Blepharofimosis, displasic ears, nose with prominent nasal root and bulbous nasal tip, microstomia and speech delay	22q11.21	chr22:17621597 -19679261	Del	14
28	F	TOF	Hypocalcemia and immune deficiency	22q11.21	chr22:17621597 -19679261	Del	14
29	F	IAA	Broad nose, misshapen ears, microstomia, micrognathia and feeding problems	22q11.21	chr22:17621597 -19679261	Del	14
30	F	PA + VSD	Feeding problems and hypocalcemia	22q11.21	chr22:17621597 -19679261	Del	14
31	M	sVSD	Hypocalcemia	22q11.21	chr22:17621597 -19679261	Del	14
32	M	TOF	Plagiocephaly, blepharophimosis, retrognathia, misshapen ears, long and thin fingers	22q11.21	chr22:17621597 -19679261	Del	14
33	M	TOF	Cryptorchidism and microcephaly	22q11.21	chr22:17621597 -19679261	Del	14
34	F	TOF		22q11.21	chr22:17621597 -19679261	Del	14
35	M	TOF		22q11.21	chr22:17621597 -19679261	Del	14
36	M	TOF	Dysplastic ears, broad nose with square tip, micrognathia, feeding disorders and developmental delay	22q11.21	chr22:17621597 -19679261	Del	14
37	F	TOF	Enophtalmia, hypocalcemia and seizures	22q11.21	chr22:17621597 -19679261	Del	14

Patient	Gender	CHD	Additional clinical features	Cytoband	Chromosome region (hg18)	Event	Probes (n)
38	M	TOF	Plagiocephalia, blepharofimosis, retrognatia, rotated low set ears, long and thin fingers	22q11.21	chr22:17621597 -19679261	Del	14
39	M	TOF		22q11.21	chr22:17621597 -19679261	Del	14
40	F	TOF		22q11.21	chr22:17621597 -19679261	Del	14
41	F	PA + VSD	Blepharophymosis, mirognathia, dysplastic ears, short philtum , board nose and microstomia	22q11.21	chr22:17621597 -19679261	Del	14
42	M	PTA	Dysplastic ears, thing fingers, 46, XX male genitals	22q11.21	chr22:17621597 -19679261	Del	14
Typical 22q11.21 deletion with additional chromosomal imbalances							
43	M	PTA	Dysplasic ears	22q11.21	chr22:17621597 -19679261	Del	14
				9q34.3	chr9:139805146 -139805210	Dup	1
44	M	COA + IAA + VSD		22q11.21	chr22:17621597 -19679261	Del	14
				22q11.22	chr22:20652996 -20653065	Del	1
45	F	IAA + sVSD + ASD + Bicuspid aorta		22q11.21	chr22:17621597 -19679261	Del	14
				22q11.22	chr22:20652996 -20653065	Dup	1
Short 22q11 deletion							
46	F	PA + VSD + ASD + PDA	Developmental delay	22q11.21	Chr22:1762159 8-18453678	Del	9
47	F	IAA	Clubfoot	22q11.21	Chr22:1762159 8-18453678	Del	9
48	F	TOF		22q11.21	Chr22:1762159 8-18453678	Del	9
49	M	TOF		22q11.21	Chr22:1762159 8-18453678	Del	9
50	M	PA + VSD	Thymus agenesis	22q11.21	Chr22:1762159 8-18453678	Del	9
51	M	DORV	Blepharophimosis, broad nose, dysmorphic ears, microstomia, feeding problems and development delay	22q11.21	Chr22:1762159 8-18453678	Del	9
Other chromosomal imbalances in 22q11							
52	F	TGV + VSD		22q11.21	chr22:18133286 -18133352	Del	1

Patient	Gender	CHD	Additional clinical features	Cytoband	Chromosome region (hg18)	Event	Probes (n)
53	F	PA + VSD		22q11.22	chr22:20652996 -20653065	Del	1
54	F	TOF		22q11.21	chr22:16606684 -17012985	dup	3
				4q35.1-2	chr4:186303263 -187390398	del	2
55	F	PA + VSD		22q11.21	chr22:19679191 -19679261	Dup	1
56	M	PA + VSD	Feeding problems, short filtum, broad nose, micrognathia and hypocalcemia	22q11.2	Chr22:2012944 2-20653065	Dup	3
Other isolated chromosomal imbalances							
57	M	TOF	Blepharophymosis, broad nose	17p13.3	chr17:169259- 1211325	Del	4
58	M	TOF		17p13.3	chr17:596607- 596671	Dup	1
59	M	TOF		17q13.3	chr17:596607- 596671	Dup	1
60	M	TOF		17p13.3	chr17:1211255- 1211325	Del	1
61	M	IAA		17p13.3	chr17:1211255- 1211325	Dup	1
62	M	TGV		8p23	chr8:11653542- 11653609	Dup	1
63	M	TOF	Developmental delay, axial hypotonia	9q34.3	chr9:139731001 -139731|062	Dup	1
64	F	IAA + hypoplasic LV		1p36.33	chr1:1137299- 1137363	Dup	1
65	M	TOF	Learning disability, Postaxial polydactyly and dysplasic ear	02q22.3	chr2:148401174 -148401249	Dup	1
66	M	TGV + VSD		15q14	chr15:32872975 -32873043	Dup	1

CCHD: Conotruncal congenital heart defect, **TOF:** Tetralogy of Fallot, **PTA:** Persistent Truncus Arteriosus, **TGV:** Transposition of the Great Vessels, **IAA**: Interrupted Aortic Arch, **PA+VSD**: Pulmonary Atresia with Ventricular Septal Defect, **DORV**: Double Outlet Right Ventricle; **sVSD**: subaortic Ventricular Septal Defect. **ASD:** Auricular Septal Defect. **PDA**: Patent Ductus Arteriosus. **AVSD**: Atrioventricular Septal Defect. **LV**: Left Ventricle. **F**: Female, **M**: Male. **Dup**: duplication **Del:** deletion

Table S2: Frequency of the 22q11 deletion among different types of CCHD.

CCHD	N	del22q +	Frequency	CI		p
TOF	84	20	0.24	0.15	0.34	1
PTA	12	5	0.42	0.15	0.72	0.667
TGV	44	0	0	0	0.08	0,001
IAA	27	9	0.33	0.17	0.54	0,544
PA + VSD	47	15	0.32	0.19	0.47	0.49
DORV	10	1	0.1	0	0.45	1
sVSD	9	2	0.22	0,03	0.6	1

CCHD: Conotruncal congenital heart disease, **TOF**:Tetralogy of Fallot, **PTA**: Persistent Truncus Arteriosus, **TGV:** Transposition of the Great Vessels, **IAA:** Irrupted Aortic Arch, **PA+VSD**: Pulmonary Atresia with Ventricular Septal Defect, **DORV:** Double Outlet Right Ventricle; **sVSD**: subaortic Ventricular Septal Defect. Note that the total number of CCHD is greater than 217since some patients had more than one CCHD: IAA+TGV (n=1); IAA+sVSD (n=1); DORV+sVSD (n=2); TGV+PA-VSD (n=3); TGV+DORV (n=2);TGV+DORV+PA-VSD (n=1), DORV+TOF (n=1); PA+sVSD (n=1); IAA+PTA (n=3). **22q11+:** Presence of a 3 Mb or 1.5 Mb 22q11 deletions. **CI:** Confidential intervals.