



## RV/D-001 - LYSOSOMAL ACID LIPASE DEFICIENCY (LAL-D): REPORT OF NEW FOUR SPANISH UNRELATED CASES

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### Resumen

**Objectives:** To show Clínicl, analytical, genetic, treatment and state of liver data of 4 unrelated cases of CESD.

**Material and methods:** We report cases of LAL deficiency included in the Registry of Dyslipemias of the Spanish Arteriosclerosis Society. We recorded demographic, anthropometric, familial, Clínicl, treatment and state of liver data as well as the activity of LAL and the mutation found in the molecular analyses.

**Results:** Four patients followed in Lipid Units for hypercholesterolemia were found to have LAL-D. All of them have mild elevation of ALT and AST and three of them have liver steatosis (ultrasonography or hepatic RNM). Two patients underwent a liver biopsy. The degree of fibrosis ranged from F1 to F4. No cirrhosis was present. Only one patient suffered from coronary and valvular heart disease. Baseline LDL cholesterol ranged from 198 to 305 mg/dL and under lipid-lowering drugs in three patients dropped to 96-125 mg/dL. LAL activity was almost undetectable in all patients (< 0.02 nmol/punch/hour). Age at diagnosis, genre, mutations found, treatment, and state of liver (steatosis Ultrasound, RMN, fibroscan, yes or not cirrhosis, biopsy realized or no, and level of transaminases) are summarized in the table.

Case	LIVER			
	1	2	3	4
Hepatic steatosis ULTRASOUND	YES	YES		YES
STEATOSIS RNM	13% Fat	No realized	Without steatosis	No realized
FIBROSCAN	F3-F4	F2-F3	Not done	F1-2
CIRRHOSIS	NO	NO	NO	NO
BIOPSY	No realized	Yes	No	Yes
ALT (basal)	87/40	59	33	146
AST (basal)	100/42	82	50	105
GGT (basal)	88/52	17	31	94
ALP (basal)	122/117	91		326

LIPIDS				
Case	1	2	3	4
CoT (basal)	354	301	280	361
LDL (basal)	305	242	198	284
HDL (basal)	27	42	55	34
Tg (basal)	130	83	196	220
CoT (últ. disponible)	147	293	191	176
LDL (UD)	96	235	125	108
HDL (UD)	26	31	33	28
Tg (UD)	127	133	163	200

TREATMENT (actually)				
Case	1	2	3	4
STATIN	Atorvastatin 80	no	Atorvastatin 20	Atorvastatin 20
EZETIMIBE	Ezetimibe 10	no		
iPCSK9	Alirocumab 150	no		
OTHERS	Acenocumarol	no	Levotiroxina 100	Levotiroxina 25

Case	1	2	3	4
Age (years)	60	16	43	2
Genre	Female	Female	Female	Male
Mutations	p.Gln298Gln p.Gln298His	p.Gly87Val+ p.SdelSer275_Gln298	p.delS275_Q298 p.delS275_Q298	p.delS275_Q298 p.T33*
LAL Activity nmol/punch/hr	< 0.02	< 0.02	< 0.02	< 0.02
Liponext		negative		
Stroke	NO	NO	NO	NO
CAD	Yes (CABG, AC)	NO	NO	NO
Other cardiopaties	Aortic valve prosthesis	NO	NO	NO
PAD	NO	NO	NO	NO
Xanthomas	NO	NO	NO	NO
DLCFI score	12	NO	NO	15

*Conclusions:* Our data confirms the notion that LAL-D is found in cohorts of patients with Polygenic or Familial Hypercholesterolemia and should be taken into account in the differential diagnosis.