

PIRCHE (Predicted Indirectly Recognizable HLA Epitopes) Algorithm as a possible predictor of AMR Following Heart Transplant

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Discussion

A 35-year-old man suffering of DCM with a new episode of heart failure, was hospitalized in August 2021 because of new episode of HF complicated by pulmonary edema in the Cardiac Surgery Department of Policlinico di Bari. The case was evaluated and he was subsequently placed on the heart transplant list (PRA < 5%).

September 2021



CDC HLA-A*02 matching crossmatch donor and negative anti-HLA antibodies.

January 2021

- Orthopnea;
- Oliguria;
- Massive pleural effusion;
- Biventricular dysfunction on echocardiogram;

The anti-HLA antibody evaluation resulted in PRA I class 93%, II class 3% with development of specific donor IgG and IgM (DSA), C1q positive.

Material and Methods



**Predicted Indirectly Recognized
HLA derived T cell Epitopes**

ID	A*	B*	C*	DRB1*	DQB1*	DPB1*	PIRCHE II	cor(P II)
PAZIENTE C N	01:01	07:14	07:01	04:03	04:02			
	02:01	15:17	07:01	14:01	05:03			
DONATORE	02:01	18:01	04:01	13:01	05:01		35.00	122.08
	25:01	35:01	12:03	16:01	05:01			

Conclusion

Is the high score a real risk factor for post-transplant AMR?

The application of the algorithm to larger case series and more in-depth studies is certainly necessary, confirming in any case that early and correct post-transplant serological monitoring is essential for the identification of de-novo DSA.