



The 6<sup>th</sup> World Congress on  
CONTROVERSIES IN MULTIPLE  
MYELOMA (COMy)

# Daratumumab treatment in heavily pre-treated immunoglobulin light chain amyloidosis

F. Andreozzi<sup>1</sup>, I. Dufour<sup>1</sup>, J. Raedemaeker<sup>1</sup>, G. Verstraete<sup>1</sup>, S. Bailly<sup>1</sup>, A. Sogorb<sup>1</sup>, S. Chabert<sup>1</sup>, L. Bamps<sup>1</sup>, F. Jamar<sup>2</sup>, F. Lecouvet<sup>3</sup>, A. Camboni<sup>4</sup>, JP. Defour<sup>5</sup>, AC. Pouleur<sup>6</sup>, J. Morelle<sup>7</sup>, MC. Vekemans<sup>1</sup>.

Department of Hematology<sup>1</sup>, Nuclear Medicine<sup>2</sup>, Radiology<sup>3</sup>, Pathology<sup>4</sup>, Clinical Biology<sup>5</sup>, Cardiology<sup>6</sup>, Nephrology<sup>7</sup>. Cliniques universitaires Saint-Luc, 1200 Brussels, Belgium.

## Introduction

Immunoglobulin light-chain amyloidosis (AL) is an underdiagnosed disease characterized by organ deposition of a misfolded monoclonal light-chain secreted by malignant plasma cells, in virtually any organ, most frequently in the heart and kidneys.

In most patients, transplantation is not applicable, bortezomib-based combination is the standard of care. However, almost all patients eventually experience hematologic relapse or progression of organ involvement. Daratumumab, a CD38-directed monoclonal antibody approved for the treatment of multiple myeloma (MM), is highly effective inducing rapid and deep hematologic responses. We reported 7 consecutive cases of AL amyloidosis treated with daratumumab in this setting.

## Results

Over the past 2.5 years, 7 patients (4 males, 3 females) with proven AL amyloidosis were treated with daratumumab at our center. Mean age at diagnosis was 59. Plasma cell disorders concerned MGUS in 3, MM in 3, WM in 1.  $\lambda$ -light chain was involved in all cases. Organ involvement concerned the heart in 5 (4 with a MAYO stage  $\geq 2$ ), kidneys in 4 (mean albuminuria  $>5\text{g}/24\text{h}$ ), soft tissues in 1. Three patients had  $\geq 2$  organs affected. All patients were previously exposed to bortezomib. Daratumumab was introduced as second line treatment in 3, third line in 2, and fifth line in 1 patient. All but one patient, achieved at least partial hematological response. Partial cardiac response was reported in 3 patients and partial renal response in 1, 3 patients being not yet evaluable or refractory. Interestingly, daratumumab was the first therapy to allow an organ improvement, within a 1-4 months delay. Treatment had to be discontinued in 3 patients after a median follow-up of 6 months.

## Conclusions

Daratumumab could represent an effective treatment after conventional treatment failure in AL amyloidosis. In our experience, daratumumab-based regimens induce organ improvement in heavily pre-treated AL amyloidosis, and should be started promptly in bortezomib-refractory patients.

ID	Age at diagnosis	Disease, involved chains	Organ involved	Mayo Stage	Proteinuria (mg/24h)	$\lambda$ chain value at diagnosis (mg/L)	Treatments PRIOR to DARA	DARA based treatment and no. Of Cycles	Hematol. Resp. to DARA	Organ reponse after DARA
1, F	60	MM, $\lambda$	H	2	120	129,1	VCd/Rd	DRd 8x	CR	PCarR
2, F	67	MGUS, $\lambda$	H/K	3	3120	431,1	VCd	DRd 7x	No reponse	Prog $\square$
3, M	47	MM, IgG $\lambda$	H/K/N	3	5128	488,9	VCd	DR 2x	CR	Prog $\square$
4, F	63	MM, $\lambda$	S	1	260	17200	Vd/VCd/Rd/P Cd	Dd 6x	Progression after PR	NA $\square$
5, M	69	MGUS, IgG $\lambda$	K	1	3860	262	VCd	DRd 5x	VGPR	PRenR
6, M	53	WM, IgM $\lambda$	H	3	<5	369,4	Rtx-Vd/ Rtx-B	Dd 5x	CR	PCarR
7, M	56	MGUS, $\lambda$	H/K	1	8750	76,1	VCd	DRd 3x	PR	PCarR

F= female, M= male, H= heart, K= kidney, N= nerves, S= skin, soft tissues, MM= multiple myeloma, WM= Waldenström Macroglobulinemia, MGUS= monoclonal gammopathy of unknown significance, B= Bendamustine, C= Cyclophosphamide, D= daratumumab, d= Dexamethasone, P= Pomalidomide, Rtx= Rituximab, R= Lenalidomide, V= Bortezomib, CR= complete response, PR= Partial Response, VGPR= Very good partial response, NA = not available, Prog= progression, PRenR= partial renal response, PCarR= partial cardiac response,  $\square$ = lethal event

