

# ACUTE KIDNEY INJURY IN MULTIPLE MYELOMA: THE EFFECT OF ON-LINE HEMODIAFILTRATION ON FLCs

N. Carullo<sup>a</sup>, M. Capria<sup>a</sup>, P. Presta<sup>a</sup>, M. Zicarelli<sup>a</sup>, S. Cosentino<sup>a</sup>, G. Crugliano<sup>a</sup>, C. Vita<sup>a</sup>, R. Arena<sup>a</sup>, T. Faga<sup>a</sup>, M. Andreucci<sup>a</sup>.

<sup>a</sup>Nephrology and Dialysis Unit, "Magna Graecia" University of Catanzaro, 88100 Catanzaro, Italy.

**Objective:** Effectiveness of On-line Hemodiafiltration (OL-HDF) on removal of sFLCs.

**Methods:** We report the case of an obese woman (79 years old), admitted for hypercapnic respiratory failure (type II) with anaemia, thrombocytopenia, hypercalcaemia, AKI with oligo-anuria and occasional finding of a monoclonal component in the gamma zone consisting of IgG with lambda light chains ( $\lambda$ ). Bone marrow biopsy confirmed the diagnosis of MM. Initially, due to AKI-stage 3, CVVHDF has been initiated for about 7 days.

Once haemodynamic stability has been achieved, post-dilution OL-HDF treatment was started [Table 1] comparing two different membranes (Phylther Bellco™ and Solacea Nipro™). At the same time, therapy with a proteasome inhibitor (Bortezomib) and dexamethasone was started.

**Results:** Both showed high efficacy in removing FLCs [Tables 2 and 3]. With Phylther™: F1c-K -35.2% and F1c- $\lambda$  -36.29%; with Solacea™: F1c-K -39.71% and F1c- $\lambda$  -3.86%. The results are presented in tables 2 and 3.

**Conclusion:** OL-HDF may be considered a valid treatment along with immuno-chemotherapy to lower sFLC levels in patients with MM and AKI, accelerating recovery of renal function.

	Phylther Bellco™	Solacea Nipro™
Q <sub>d</sub> (mL/min)	300	300
Q <sub>b</sub> prescribed (mL/min)	250-300	250-300
Total volume of blood treated (L)	48,8	47,6
Duration (h)	3	3
Volume removed (Kg)	1,53	1,46
Post-dilution total infusion volume (L)	10,3	9,9
Pre-dilution total infusion volume (L)	2,8	2,9
Bicarbonate conductivity (mS/cm)	3,1	3,1
Total conductivity (mS/cm)	14,5	14,5

Table 1

Phylther Bellco™	Pre	Post	% reduction
Serum IgKappa (g/L)	0,34	0,32	-5,88
Serum IgLambda (g/L)	7,09	7,08	-0,14
Kappa/Lambda ratio	0,05	0,05	-
Serum F1c Kappa (mg/L)	33,80	21,9	-35,21
Serum F1c Lambda (mg/L)	810,00	516	-36,29
F1cs Kappa/Lambda ratio	0,04	0,04	-

Table 2

Solacea Nipro™	Pre	Post	% reduction
Serum IgKappa (g/L)	0,33	0,33	0
Serum IgLambda (g/L)	7,64	6,95	-9,03
Kappa/Lambda ratio	0,04	0,05	-
Serum F1c Kappa (mg/L)	35,50	21,40	-39,71
Serum F1c Lambda (mg/L)	673,00	647,00	-3,86
F1cs Kappa/Lambda ratio	0,05	0,03	-

Table 3