PULMONARY HYPERTENSION IN A DIALYSIS PATIENT: MODIFYING THE DIALYSIS SCHEDULE INSTEAD OF USING DRUGS

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A 42-year old woman on hemodialysis since 2007 was referred to our Centre after an echocardiografic finding of elevated estimated pulmonary systolic pressure (80 mmHg). She underwent kidney transplant in 1997 and graft removal in 2009. The patient, anuric, presented in World Health Organization Functional Class III. ECG (Figure 1) and Echocardiogram were consistent with severe right chambers enlargement as per longstanding Pulmonary Hypertension. Chest Computed Tomography excluded parenchimal lung disease and lung perfusion scan was normal. Right Heart Catheterization showed precapillary pulmonary hypertension with right atrial pressure of 17 mmHg (Table 1). Kidney failure was considered the most likely cause of pulmonary hypertension: group 5 of the 2015 ESC guidelines (pulmonary hypertension of multifactorial etiology). Accordingly, there was no evidence for specific drug treatment. In her dialysis centre, despite a bioimpedance evidence of water overload, poor dialysis tolerance and patient noncompliance hindered further fluid removal. A switch from 3 to 4 weekly dialysis sessions was proposed and accepted. In the following months the patient reported increased exercise tolerance, which correlated with a clear trend of improving hemodynamic profile as measured by serial right heart catheterizations (Table 1) with eventual near-normalization of the hemodinamic profile and of the ECG (Figure 2). The body weight, after a reduction due to progressive water removal, increased again thanks to improved nutritional state. In the light of these findings, the patient was able to start a second kidney transplantation screening program. Pulmonary hypertension is common in dialysis patients and associated to increased mortality and worse outcome of renal transplantation. A consistent control of the fluid status might be a reasonable preventive measure; moreover, increasing the dialysis frequency may have a therapeutic role.

Table.1: Temporal changes of the main haemodynamic parameters

	February 2017	September 2017	May 2018	January 2019
Right atrial pressure (mmHg)	17	3	2	4

Mean pulmonary arterial pressure (mmHg)		**39**	**30**	**24**

Pulmonary artery wedge pressure (mmHg)	14	8	8	9
Pulmonary vascular resistance (WU)	5.9	5.4	4.0	3.3
Body weight (Kg)	45.5	43.0	44.5	48