## 10<sup>th</sup> European Nephrology Conference

October 24-26, 2016 Rome, Italy

## New inside the treatment of anemia of patients with chronic kidney disease

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Normocytic, normochromic anemia is very common in the late stages of chronic kidney disease (CKD) and associated with many clinical complications. Erythropoiesis-stimulating agents (ESAs) and adjuvant iron therapy represent the primary treatment for anemia in CKD. Introduction of ESAs into clinical practice was very successful in inducing an increase in hemoglobin concentration, reducing the risk of blood transfusions and improving the quality of life of CKD patients with severe anemia significantly. However, concern arose following the publication of the randomized clinical trials showing that higher hemoglobin targets and/or high ESA doses may increase the CKD patients' cardiovascular complications. This was associated with changes in ESA reimbursement policy in some countries resulting in a significant reduction in ESA prescribing and in the target hemoglobin level aimed at during therapy. New drugs were developed with theoretically improved characteristics and/or easier manufacturing processes as compared to available ESA, including new treatment approaches that may indirectly improve erythropoiesis. Moreover, new iron therapies became available, reducing the frequency of administration and facilitating the iron treatment. This presentation will give an update on the new investigational strategies for increasing erythropoiesis, looking in depth at their characteristics and possible advantages in the clinical setting, and on the cautions needed at the present stage of development.

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## Hypertonic solutions for the treatment of diabetic patients in peritoneal dialysis

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Diabetes is the leading cause of kidney failure. To stay alive, most of kidney failure patients must go on dialysis. A significant proportion of diabetic kidney failure patients are treated with peritoneal dialysis (PD), a home-based therapy where the excess of fluid can only be removed by filling the peritoneal cavity with a hypertonic solution containing large amounts of glucose. The high glucose load along with insulin treatment, the only anti-diabetic therapeutic option available, results in survival rates much worse for diabetic kidney failure patients than for non-diabetic patients. Therefore, diabetic kidney failure is a condition with a significant unmet medical need. Our aim is to complete the development of proprietary anti-diabetic hypertonic PD solutions, containing different combinations of xylitol, L-carnitine and polydextrin. These innovative PD solutions will be characterized by osmotic strengths comparable to those commercially available, but with higher biocompatibility and able to ameliorate glycemic control in diabetic patients in PD therapy. Our hypertonic PD solutions are expected to improve dialysis efficiency and increase survival rates of diabetic patients in PD. In addition, insulin and non-insulin dependent diabetic kidney failure patients in PD may equally use our hypertonic solutions.

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