Activation of human renal progenitors cells after revascularization in ischemic nephropathy. Possible instrumental laboratoristic and clinical predictors

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Abstract

Ischemic nephropaty (IN) is associated with an increased risk for progressive decline in renal function especially when present from a long time. The most common cause of IN is related to renal artery stenosis (RAS) and this is in a mayor of case do to atherosclerotic lesions, and with minor impact by fibromuscular dysplasia. Percutaneous transluminal renal angioplasty (PTRA) with or without stenting is one of the standard treatments for severe RAS. It's also estabilshed the correct timing of revascularization before hypoxia led to irreversible kidney damage. Randomized controlled trials comparing medical therapy with PTRA to medical therapy alone have failed to show a benefit of PTRA; however different studies have valuated the effects of PTRA treatment only on blood pressure and renal function and never studied which factors were could be able to repairs the organ damage. As demonstrated that in the adult human kidney, CD133, CD24 cells are a progenitors that are arranged in a precise sequence within Bowman's capsule and exhibit heterogeneous potential for differentiation and regeneration. Using the dosage of renal staminal cells we identifies and confirm factors (clinical and strumentals) that may predict which patients are most likely to benefit from PTRA.

Biography:

Rosario Cianci has a specialist in Nephrology, Associate Professor of Nephrology, His work in Rome at the Umberto I Polyclinic, where I manage the Malpighi Center for Hypertension and Vascular Diseases and the Nephrology Unit at the La Sapienza University of Rome. The fields of interest are arterial hypertension, vascular diseases associated with arterial hypertension and primary and secondary renal diseases and also gained particular experience in the study of renal vascular diseases and above all renal artery stenosis.

Publication of speakers:

1. Caplan AI, Bruder SP. Mesenchymal stem cells: building blocks for molecular medicine in the 21st century. Trends Mol Med 2001; 7: 259-64.
2. Pittenger MF, Mackay AM, Beck SC, et al. Multilineage potential of adult human mesenchymal stem cells. Science1999; 284: 143-7.
3. Gupta S, Verfaillie C, Chmielewski D, et al. Isolation and Characterization of Kidney-Derived Stem Cells. J Am Soc Nephrol 2006; 17 (11): 3028-40. Epub 2006 Sep 20.

Citation: Rosario Cianci, Activation of human renal progenitors cells after revascularization in ischemic nephropathy. Possible instrumental laboratoristic and clinical predictors, Webinar on Renal Diseases and Management, March 16, 2021