J Cell Sci Ther 2018, Volume 9
DOI: 10.4172/2157-7013-C2-045

A technique to regrow your own kidney in chronic kidney disease

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Worldwide Chronic Kidney Disease (CKD) has becomes an urgent issue to find out a new effective therapeutic options to treat patients. Implanted cells cannot survive for long term in cell therapy because of toxic fibrotic microenvironment. Efforts require understanding mechanism of cell microenvironment so that reconstruction is possible. New innovative therapy is the whole kidney 'de novo' regeneration with the help of endogenous stem cells present at the site of injury by creating a supporting microenvironment. It assists and accelerates regenerative process by stimulating patients own natural inherent healing potential and regrow your own new kidney in CKD, which is novel treatment based on self-organ regeneration. Data suggest that kidney develops at the periphery, sub-capsular region where multiple stem cells niches are defined as a "blue-strip" which is the base for endogenous regeneration. Fibrosis is the main cause for CKD but not affecting the nephrogenic area. It produces vasoconstriction of micro vascular capillaries which creates hypoxic and acidic environment so a stem cell niches loses its regenerative power. Normalization of micro vascular tone restores micro vascular integrity. Development of new blood supply angiogenesis and vasculogenesis in failed organs is the main target. This can be achieved by dissolving the fibrosis which improves blood supply and creates a well-organized cellular microenvironment vital for regeneration. An in situ self-organ repair regeneration method utilizes body's own biological resources by creating supporting microenvironment for the endogenous stem cells to generate injured tissue structurally and functionally. The following steps are proposed in this method (1) artificial hydronephrotic condition is created with help of pelvi-ureteric junction (PUJ) block, (2) due to increased retrograde pressure the fibrosis renal parenchyma is dissolved (3) remove the artificial block at PUJ causing back pressure. When the fibrosis is dissolved, it creates healthy microenvironment. Theoretically prognosis is that the endogenous stem cells niches are naturally placed between renal capsule and cortex will start regeneration of normal renal parenchyma.

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