

## Tissue Engineering 2017: Rejuvenation approach to treat chronic kidney diseases \_Shrikant L Kulkarni\_ Kulkarni Clinic \_India

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Rejuvenate means make young or youthful again to an original new state by natural healing process. Kidney loses its functionality due to age, disease, damage or congenital defects. The therapeutic repair by self-healing process is the rejuvenation, regeneration or replacement. The current treatment approach includes transplantation of the kidney, tissue engineering cell therapy and gene therapy. In cell based therapy the exogenous material is used in unwilling failed organ forcefully but uncertainty about survival and adaption due to toxic environment in the host tissue. Creation of friendly environment is unsolved problem in cell based therapy. The main root cause for chronic kidney diseases (CKD) is fibrosis; to treat fibrosis is through the body's natural process of healing. Body can be repaired if fibrosis dissolved which restore blood circulation, elasticity of arteries and improve inflammatory immune system which creates the healthy microenvironment for regeneration of a damaged tissue. Rejuvenation is the self-repair self-directed and motivated autonomous process which is ideal treatment for the failed organ with recovery with physiological function. This endogenous natural process of healing replaces the young cells which are having strong stress tolerance for tissue survival. The aim of this article is to discuss the use of regenerative science self-organ regeneration by dissolving the fibrosis in renal parenchyma and stimulate in damaged tissues, which can be treated by Artificially Producing Hydronephrosis (APH treatment) method. The following steps are involved in this treatment: (1) The pelvic-ureteric junction (PUJ) is blocked to create hydronephrotic condition, (2) Due to increased back pressure the fibrosed renal parenchyma is dissolved, and (3) Remove the artificial block at PUJ causing back pressure reduction. This gives a healthy environment to regenerate the normal renal tissue from the renal stem cell niches which are present around the kidney cortex. The APH treatment makes use of the power of regeneration existing in our body. Theoretically the prognosis states that the stem cells niches between renal capsule and the cortex will start regeneration of normal renal parenchyma.

There's no medicine specifically for CKD, but medicine can help control many of the problems that cause the condition and the complications that can happen as a result of it. You may need to take medicine to treat or prevent the different problems caused by CKD. Good control of blood pressure is vital to protect the kidneys. People with kidney disease should usually aim to get their blood pressure down to below 140/90mmHg, but you should aim to get it down to below 130/80mmHg if you also have diabetes. There are many types of blood pressure medicines, but medicines called angiotensin converting enzyme

(ACE) inhibitors are often used. You may get swelling in your ankles, feet and hands if you have kidney disease. This is because your kidneys are not as effective at removing fluid from your blood, causing it to build up in body tissues (oedema). You may be advised to reduce your daily salt and fluid intake, including fluids in food such as soups and yoghurts, to help reduce the swelling.

### **Biography :**

Shrikant L Kulkarni has completed his MS General Surgery in 1975 from B J Medical College in India and has completed his MBBS from Government Medical College Miraj. Since 1971, he has been working at several government hospitals like the Wanless Hospital Miraj, General Hospital Sangli, Sassoon Hospital Pune and multispecialty hospitals like Ruby Hall Clinic and Jehangir Nursing Home. He is currently working at his own clinic in India since more than 35 years.