CONCLUSIONS:

This information is clinically designed in order to better understand the individual role of each one and how to apply it.

\[ 1.032 - 2.526, \ p = 0.004 \]

\[ p = 0.017, \ iPTH, p = 0.000, \ Calcium \times Phosphorous, p = 0.010 \]

\[ 0.201(1.360 - 8.477), \ p = 0.004 \]

\[ 25(OH)D3 \] 

\[ 56) \]

\[ \text{Baseline characteristics were analyzed.} \]

\[ \text{The aim of the present work was to prepare abiodgradable system to deliver insulin through Concanavalin A anchored PEGylated PLGA nanoparticles, which would possibly, lead to enhance the stability of system; prolong insulin fate in blood and enhance the oral bioavailability of insulin by enhancing its lymphatic uptake using targeted approach. The gut associated lymphoid tissues were targeted to increase the lymphatic uptake of insulin so that the drug could bypass hepatic first pass effect and thus improving the oral bioavailability and therapeutic response.} \]

**METHODS:** The PLGA Nanoparticles were prepared by Double Emulsification Method. Insulin loaded nanoparticles were characterized for their shape, size via electron microscopy. The prepared nanoparticles were activated and then conjugated to concanavalin A. The conjugated system was again characterized in-vitro for conjugation efficiency with ligand, entrapment efficiency and stability. Studies like x-ray diffract, differential scanning calorimetry & integrity of entrapped insulin was assessed using circular dichroism spectrum & in-vitro ligand agglutination assay were performed.

**RESULTS:** Ex-vivo study was performed, which exhibited the higher intestinal uptake of Con-A conjugated nanoparticles. The system was found to be effective in protecting the drug in the GIT environment and with good release profile. The In-vivo studies suggested that developed system lowered blood glucose levels within a safer limit over prolonged duration of action.

**CONCLUSIONS:** The Con-A anchored PEGylated PLGA nanoparticulate system can be a promising drug delivery carrier for oral insulin delivery in the treatment of diabetes mellitus. Targeted approach led to the better uptake of the system and increasing the oral bioavailability of the drug as inferred from blood glucose profile, additionally it also prolongs circulation time due to PEG attachment. Thus the potential for the use developed system as oral drug delivery system can be further investigated.
**RESULTS:**

Tubulo-interstitial fibrosis, fibronectin and collagen levels were evaluated. Untreated or isosmotic mannitol (35mM) cultured cells were used as controls. Renal (5.5 mM) and high glucose (35 mM) medium and treated with RAAS inhibitors.

**METHODS:**

Animal experiments were performed on male, adult Wistar rats. Blood pressure, renal and metabolic parameters were measured. Tubulo-interstitial fibrosis, fibronectin and collagen levels were evaluated. Diabetes was induced by streptozocin (65 mg/bwkg, i.p.) induced diabetes male, adult Wistar rats were treated for two weeks at the following doses: 10-20-50-50 mg/bwkg/day, resp. Vehicle-treated diabetic (D) and healthy animals were controls.

**CONCLUSIONS:**

Aldosterone antifibrotic effect has not been tested yet. Different growth factors (TGF-β, PDGF and CTGF) decrease fibronectin accumulation (1.5 - 2.1 fold decrease in LOS and EPL) and fibronectin production. RAAS blockers, directly acting on fibroblasts, decrease SMA production in fibroblasts. These changes are measured. Tubulo-interstitial fibrosis, fibronectin and collagen levels were evaluated. Untreated or isosmotic mannitol (35mM) cultured cells were used as controls. Renal (5.5 mM) and high glucose (35 mM) medium and treated with RAAS inhibitors.