4. CONCLUSION

To sum it all up, the results of this study have shown EFR and AFR to present protection against the damaging renal side effects of cisplatin, gentamicin, cyclosporine and lithium. The nephron protective role may be due to the blockage of megalin, the cation drug receptor in proximal tubular cells. This prevents pinocytosis of gentamicin, thereby prevents the formation of typical myeloid bodies within the tubular cells. It is known that Gentamicin activates the calcium sensing receptor on the apical membrane, which brings about cell signaling and cell death. The EPR/AFR may inhibit this calcium sensing receptor. This may be the possible role of EFR/AFR in protecting the gentamicin induced kidney toxicity.

It was reported that CsA causes nephrotoxicity due to the oxidation of caused by the reactive oxygen species formed. Hence, the concomitant administration of antioxidants helps to reduce the nephrotoxicity effect produced by CsA. The efficacy of antioxidants in reducing the nephrotoxicity has been evaluated by different researchers. It has been shown that the antioxidants, improved the morphological renal structure, increased the antioxidant enzyme content, decreased lipid peroxidation and reactive oxygen species. The EFR/AFR induced nephron protection against lithium may be due to inhibitory effect on ENaC on the distal nephrons. This increases the inositol level and stimulates the cell cycle, thereby protects the nephrons. The accumulation of lithium in cells of the distal nephron via ENaC may be prevented by EFR/AFR, thereby protects the kidney against lithium induced NDI.

The organic cation transporters (OCTs) are involved in the uptake of cisplatin. The cisplatin induced tubular injury may be related to basolateral OCTs. This is evident as it is reported that an inhibitor of OCTs, like cimetidine could partially avert cisplatin-induced cytotoxicity and over expression of OCT2 in tubular cells leads to the increased nephrotoxicity because of increased uptake of cisplatin. The nephroprotective shown by the EFR/AFR may be due to their possible role in the inhibition of OCT2, thereby prevents the uptake of cisplatin into the tubular cells.

In the near future, the *Ficus racemosa* could lead us to discover a new drug for preventing the drug-induced nephrotoxicity and nephrogenic diabetes insipidus.