

**SALIVARY AND PLASMA ANALYSIS OF
OXIDATIVE STRESS BIOMARKERS AND
BIOCHEMICAL MARKERS WITH
EVALUATION OF ORAL MANIFESTATIONS
IN END STAGE RENAL FAILURE PATIENTS.**

A thesis

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Abstract

BACK GROUND:

Chronic renal failure Patients undergoing hemodialysis are exposed to oxidative stress, which is associated with an impairment of antioxidant defense and an over production of oxidative stress markers. Oxidative stress plays a significant role in the development of inflammation in these patients. Most common oral manifestations including xerostomia, uremic odor can be observed in CRF. Saliva provides an inexpensive, non invasive and accessible diagnostic element. we hypothesized that changes in plasma composition caused by hemodialysis would be reflected in saliva.

AIMS OF STUDY:-

1. To evaluate role of oxidative stress & anti oxidant in CRF patients by measuring malondialdehyde & uric acid in plasma and saliva.
2. To analyze & compare the biochemical compositions (total protein, calcium & Phosphorus levels) in plasma & saliva of chronic renal failure & apparently healthy control group.
3. To assess the oral manifestations of patients with chronic renal failure patients and compare them with findings in control group; analyze the possible association between oral manifestations & disease, as well as with relevant salivary flow rate & PH .

SUBJECTS, MATERIALS & METHODS:-

This study was conducted on 60 Chronic renal failure patients at Al-Hussein teaching hospital, Karbala & 30 apparently healthy control group .This was carried out by intraoral examination of CRF patients for monitoring oral manifestations & lesions, laboratory measurements of salivary & plasma levels of oxidants

,antioxidants & biochemical markers(MDA, uric acid, Ca, P, total protein, SFR & pH) compared to age & sex matched apparently healthy control group.

RESULTS:-

Salivary flow rate was significantly lower ,but salivary pH was significantly higher in chronic renal failure group than in control group. Salivary & plasma (malondialdehyde , uric acid , total protein & phosphorus values) showed highly significant differences between chronic renal failure & control groups. Salivary calcium was elevated ,but plasma calcium reduced in chronic renal failure patients in comparison with control group. Several oral manifestations were detected {xerostomia, uremic odor, ecchymosis, candidiasis, ulceration uremic stomatitis}

CONCLUSIONS:-

1. Higher salivary, plasma oxidants & antioxidants concentrations of Chronic renal failure patients with increase salivary components disturbances in comparison with apparently healthy control group.
2. Increased oral mucosal lesions of CRF patients in comparison with apparently healthy control group.
3. Chronic renal failure patients have a lower salivary flow rate & higher pH than control group ,So they suffered from xerostomia.
4. In saliva all biochemical markers (Ca, P, total protein) were increased, in contrast to plasma calcium level which was decreased in Chronic renal failure patients.
5. Higher levels of salivary phosphorus secretion were found in Chronic renal failure patients, along with a positive relationship with the serum P levels.