

A PROSPECTIVE STUDY OF SKIN MANIFESTATIONS IN CHRONIC KIDNEY DISEASES

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ABSTRACT: BACKGROUND: Skin disorders associated with chronic kidney disease (CKD) can markedly affect a patient's quality of life and can negatively impact their mental and physical health. **OBJECTIVES:** The purpose of this prospective study is to determine skin manifestation in chronic kidney disease. **METHODS:** In this descriptive, prospective, observational, cross sectional study, all patients who presented to the department of Medicine, Nephrology and dialysis unit, during this study period of 12 months from January 2011-December 2012, Farrukhabad were included. **RESULTS:** Total number of males in the study is 80 (80%), females in the study is 20 (20%). Number of patients in the age group 40-50 years was 18, 51-60years was 28, 61-70 years was 22, number of patients in 71-80 years was 20 and number of patients in the age group 81-90 years was 12. Hyperpigmentation was seen in 44 patients, pallor was seen in 96 patients, xerosis was seen in 68 patients, ichthyosis was seen in 46 patients, pruritis was seen in 87 patients, Prurigo nodularis was seen in 26 patients, Acquired perforating dermatosis was seen in 13 patients, Purpura was seen in 34 patients, Pseudoporphyria was seen in 4 patients, Calcific uremic arteriopathy (calciphylaxis) was seen in 14 patients, Benign nodular calcification was seen in 22 patients, Half-and-half nails was seen in 11 patients, Koilonychia was seen in 68 patients, Transverse leukonychia was seen in 43 patients, Onychomycosis was seen in 38 patients, Onycholysis was seen in 23 patients, Splinter haemorrhages was seen in 67 patients, Subungual hyperkeratosis was seen in 27 patients, Alopecia was seen in 36 patients, Red eyes (pingueculitis) was seen in 23 patients, Angular cheilitis was seen in 74 patients and uremic frost was seen in 8 patients. P value of pallor, Calcific uremic arteriopathy (calciphylaxis), Koilonychia and Angular cheilitis were significant at <0.05. **CONCLUSION:** This study shows the spectrum of skin manifestation in our cohort.

KEYWORDS: Chronic kidney disease, skin disorders, calcific uremic arteriopathy (calciphylaxis), Koilonychia, Angular cheilitis.

INTRODUCTION: A wide variety of skin diseases occur in patients with chronic kidney disease.^{1,2} These diseases are sometimes related to the underlying renal illness but are more frequently directly or indirectly associated with 'uremia' in its broadest sense. With an almost 100% prevalence in dialysis populations, skin disorders are frequently the subject of patients' complaints.³ Skin disorders associated with chronic kidney disease (CKD) can markedly affect a patient's quality of life and can negatively impact their mental and physical health. Skin involvement can be extensive, and a number of dermatologic disorders may affect ESRD patients.⁴

Pruritus is a common complaint among ESRD patients, affecting patients on hemodialysis more frequently than those on peritoneal dialysis.⁵ Studies have shown that pruritus affects 50%

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to 90% of patients with ESRD; is independent of sex, age, race, or etiology of kidney failure.⁶; and can be debilitating.⁷ despite much speculation, the exact mechanism of pruritus remains unclear.

MATERIALS & METHODS:

Study Design: Prospective, observational, cross sectional study.

Sample Size: 100 cases over a span of 12 months from January 2011-December 2012 Farrukhabad were included who had CKD and skin manifestations.

Method of Collection of Data: The data for the purpose of the study was collected in a predesigned and pretested proforma which include various socioeconomic parameters like age, sex, occupation, religion, etc. About 100 cases were selected on the basis of the simple random sampling method. Patients who had CKD any stage were included. Patients who presented with dermatological manifestations during the period of were included.

The statistically data was analyzed with the help of software SPSS.16.0, Chi-square test was done. Questionnaires, physical, radiographic examination was done in all patients

INCLUSION CRITERIA: Patients with dermatological manifestations and with CKD any stage.

EXCLUSION CRITERIA: Prior skin manifestations before being diagnosed as CKD.

RESULTS: Table 1 shows total number of males in the study is 80(80%), females in the study is 20 (20%).

Group	No. of patients	(%)
Males	80	80
Females	20	20
Total	100	100

Table 1: Showing prevalence of present study

Table 2 Number of patients in the age group 40-50 years was 18, 51-60 years was 28, 61-70 years was 22, number of patients in 71-80 years was 20 and number of patients in the age group 81-90 years was 12.

Age groups (yrs.)	No. of Patients	(%)
40-50	18	18
51-60	28	28
61-70	22	22
71-80	20	20
81-90	12	12
Total	100	100

Table 2: Table showing age and distribution according to groups in present study

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Table 3 Shows the skin manifestations Hyperpigmentation was seen in 44 patients, pallor was seen in 96 patients, xerosis was seen in 68 patients, ichthyosis was seen in 46 patients, pruritis was seen in 87 patients, Prurigo nodularis was seen in 26 patients, Acquired perforating dermatosis was seen in 13 patients, Purpura was seen in 34 patients, Pseudoporphyria was seen in 4 patients, Calcific uremic arteriopathy (Calciphylaxis) was seen in 14 patients, Benign nodular calcification was seen in 22 patients, Half-and-half nails was seen in 11 patients, Koilonychia was seen in 68 patients, Transverse leukonychia was seen in 43 patients, Onychomycosis was seen in 38 patients, Onycholysis was seen in 23 patients, Splinter haemorrhages was seen in 67 patients, Subungual hyperkeratosis was seen in 27 patients, Alopecia was seen in 36 patients, Red eyes (pingueculitis) was seen in 23 patients, Angular cheilitis was seen in 74 patients and uremic frost was seen in 8 patients. P value of pallor, Calcific uremic arteriopathy (calciphylaxis), Koilonychia and Angular cheilitis were significant at <0.05.

Skin disorders in patients with chronic kidney disease	No. of patients	%
Hyperpigmentation	44	44
Pallor	96	96
Xerosis	68	68
Ichthyosis	46	46
Pruritus	87	87
Prurigo nodularis	26	26
Acquired perforating dermatosis	13	13
Purpura	34	34
Pseudoporphyria	04	04
Calcific uremic arteriopathy (calciphylaxis)	14	14
Benign nodular calcification	22	22
Half-and-half nails	11	11
Koilonychia	68	68
Transverse leukonychia	43	43
Onychomycosis	38	38
Onycholysis	23	23
Splinter hemorrhages	67	67
Subungual hyperkeratosis	27	27
Alopecia	36	36
Red eyes (pingueculitis)	23	23
Angular cheilitis	74	74
Uremic frost	8	8

Table 3: Table showing symptoms profile according to groups in present study

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DISCUSSION: This study entitled "A Prospective study of skin manifestations in Chronic Kidney Disease". Envisages in elaborating all the skin manifestations in CKD patients. Skin disorders are a common problem in patients with CKD and can seriously affect the patient's physical and mental health and thus their quality of life. A basic knowledge of the most common dermatological entities encountered in CKD will enable renal physicians to optimize daily patient care and to recognize potentially life-threatening conditions. Recent surveys (including the Dialysis Outcomes and Practice Patterns Study [DOPPS], which has assessed more than 18,000 patients) reveal that UP is still present in 42–52% of adults with CKD.^{4,6} our study shows pruritis being the most common manifestation amounting up to 86% of the study cohort.

The incidence of CUA is estimated to be approximately 4% in patients on dialysis and less than 1% in patients with CKD.^{8,9} Our study shows CUA being amounting up to 14% of the study cohort being affected by this symptom.

Acquired perforating dermatitis (APD, also known as Kyrle disease) has a prevalence of approximately 10% in dialysis populations and occurs predominantly in African Americans and patients with diabetes mellitus.^{10,11} Our study shows APD amounting up to 13% of the study cohort being affected by this symptom.

As the number of dialysis patients continues to grow, providers in all areas of medicine will be involved in their management. Dermatologic complaints in ESRD patients are common and carry significant morbidity and mortality. Although a number of dermatologic conditions affect these patients, perhaps the most troublesome are pruritus, Kyrle's disease, NFD, and CUA. Therapeutic interventions are available, but their efficacy is limited. Therefore, it is necessary to recognize these conditions early and work closely with a dermatologist in managing these patients.

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