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Nephrologists 2020: To analyze various changes in the Red Blood Cell (RBC) parameters in patients with Chronic Kidney Disease (CKD) and to correlate it with the stage of the disease a study from Tertiary Care Hospital of Delhi NCR- Punit Gupta- Sharda Superspecialty Hospital

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Aim: Anemia is a common sequealae of chronic kidney disease (CKD), associated with significant morbidity. The study was conducted to know hematological manifestations in patients of Chronic Kidney Disease admitted to Dept. of Nephrology and organ transplantation, Sharda Superspecialtly Hospital, Delhi NCR.

Material & Methods: Renal diseases are associated with a variety of hematological changes, and anemia is the most predominant feature. A 55 patients with Chronic Kidney Disease admitted in Nephrology Unit were studied. All patients were subjected to all routine investigations including Complete Blood Count, Blood Sugar, RFT & electrolytes and other relevant tests.

Results:

- Mean Age of the patients was 49.5 + 8.5 years.
- 69.3% patients were males and 30.7% patients were females.
- As per the WHO criteria for anemia grading, following are the anemia with severity graging in CKD patients

Grade	Severity	value	Numbers in %
0	NONE	More than 11	10.9%
1	MILD	9.5-10.9	29.1%
2	MODERATE	8 -9.4	25.4%
3	SEVERE	6.5 – 7.9	25.4%
4	LIFE THREATENING	Less than 6.5	9.1%

- Stage wise distribution of patients in stage I, II, IIIa, 111b, IV, and V was nil, 3.6%, 3.6%, 1.8%, 9.09% & 81.1% respectively
- CKD stage from stage 2 to 3b, patients had mild anemia and from CKD stage 4 to 5 patients have moderate to life threatening anemia. (as per WHO grading).
- Among patients with Hemoglobin > 11 gm/dl, % 3.6were diabetic and 7.2% were non diabetic.
- Normocytic, normochromic anemia was the most common abnormality and was found in 65% of patients having Hemoglobin < 10 gm/dl.
- Microcytic Hypochromic anemia was found in 30% of patients and rest patients had normocytic, hypochromic anemia.

Idiopathic nephrotic condition influences 1-3 for each 100,000 youngsters <16 years old; while most kids will be receptive to corticosteroid treatment, around 20% will be named steroid safe i.e., inability to accomplish total abatement after starting treatment with corticosteroids.

Strategy: The investigation was led in the Department of Medicine, Pt. J.N.M. Clinical College and Dr. B.R.A.M. Medical clinic, Raipur. 28 patient of pediatric age gathering of nephrotic disorder were incorporated with the end goal of study conceded in Nephrology Unit, Pt. J.N.M. Clinical College Raipur from was contemplated. All patients were exposed to routine examinations like total blood tallies, urea, creatinine, serum bilirubin, liver catalysts, electrolytes (sodium, potassium, chloride and calcium), pee routine microscopy, 24 hour urinary protein; thyroid capacity test, chest X-beam and ultrasonography of midsection.

Results: An all-out no of patients remembered for study are 28. The mean age of the patient is 11±2.86 years. Out of 65% patients are male while 35% patients are female. All patients have hypoalbuminea. The mean 24 hour pee protein is 3.1±1.2 grams. 46% patients are hypothyroid; out of them 62% was male and 38% was female. 72% patients shows electrolyte irregularity. 97% patients shows unusual usg discoveries in which, ascites, expanded echotexture pleural radiation seen in 43.5%, 28%, 28.5% individually. Normal load of the nephrotic condition understanding is 28±13.69 kg. Normal weight decrease in week length is 6.78±0.78 kg; portion of deflazacort utilized is 1 mg/kg body weight. Portion of mycophenolate mofetil utilized is 12 mg/kg body weight. No patients' shows difficulty identified with mycophenolate mofetil. 96.4% patients' showed improvement in half year follow up and just 1 patient had backslide as a result of unpredictable drug. End: Male shows more noteworthy improvement than female. Most extreme weight decrease was from 69 kg to 59 kg at the hour of release. Hypoalbuminemia and hypothyroidism was regular in female than male. 96.4% patients indicated improvement with deflazacort and mycophenolate mofetil. Deflazacort and mycophenolate mofetil shows better outcomes in treatment of nephritic disorder. Sickle cell nephropathy is defined as structural and functional abnormalities of kidney function seen in patients with Sickle cell haemoglobinopathy (SCA or Sickle cell Disease; SCD) in the absence of other secondary causes of kidney disease is common and contributes to mortality (CIN 2011). Sickle cell nephropathy consists of a variety of renal abnormalities, i.e. tubular changes and glomerulopathy. The

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hallmark of sickle cell nephropathy is the combination of an impaired renal concentrating capacity and a normal diluting capacity. Maximum numbers of patient were in the age group between 15-25 years in patients of Sickle cell disease with nephropathy and Sickle cell disease without nephropathy. The mean age in our study was 25.31 ± 8.47 years and the mean age in patients of sickle cell disease with nephropathy was 29.26 ± 9.30 years, while it was 21.36 ± 9.30 in patients of sickle cell disease without nephropathy.16 (53.33%) were male and 14 (46.67%) were female. Irritation is basic in incessant kidney malady, claim to fame patients on hemodialysis or CAPD. C-receptive protein is ordinarily present in serum and fills in as a significant fiery marker as its focus increments inside long stretches of intense injury, tissue rot and some other incendiary procedure. We examined the degree of incendiary markers (C-responsive protein, serum egg whites, serum cholesterol) in patients with interminable kidney sicknesses concerning these markers. Strategy: 105 patients with incessant kidney infection conceded in nephrology unit were considered. All patients were exposed to renal capacity tests, serum electrolytes, complete blood check, C-responsive protein (subjective evaluation by agglutination technique), serum egg whites, serum cholesterol and all other important routine examinations.

Results: 56% were guys and 44% females in examined populace. Among the patients contemplated 30% were diabetic and 70% non-diabetic. Mean age of the patients was 51+11.53 years. Mean hemoglobin among the patients was 9.56+2.45 gm/dl. CRP was seen as positive in 55.4% while 44.6% patients were CRP negative. Serum egg whites was <3.5 gm/dl in 62.25% and 37.75% patients had egg whites level >3.5 gm/dl. Serum cholesterol >200 mg/dl in 54.66% and <200 mg/dl in 45.34%. Among diabetic patients, 70% were CRP positive and 30% CRP negative. 58.33% had cholesterol >200 mg/dl among diabetic patients. Serum egg whites < 3.5 gm/dl was found in 83.33% patients with diabetes.

End: CRP was sure in a critical extent of incessant kidney malady patients (53.4%). Also, diabetic subjects, 70% were CRP Positive. Hypoalbuminemia (S. egg whites <3.5 gm/dl) is found in an extraordinary larger part of interminable kidney infection patients (62.25%). Larger part of interminable kidney illness patients (54.66%) have hyperlipidemia (serum cholesterol >200 mg/dl). This rate is as yet higher in diabetics (58.33%). An altogether higher extent of subjects with Diabetes (83.3%) have hypoalbuminemia (Serum egg whites <3.5 gm/dl).

Conclusion:

- Hemoglobin level drops with increasing stages of CKD.
- Higher proportion of diabetic patients was found in the group having hemoglobin less than 11 gm/dl.
- Maximum number of patients were in mild grading of anemia in our study.
- Most of the patients having moderate to severe anemia were in CKD stage 5 as per our study.
- Normocytic, Normochromic Anemia was the most common peripheral smear finding among Chronic Kidney Disease patients.