Abstracts Presented at the Nigerian Association of Nephrology Conference, 2020

ACUTE KIDNEY INJURY

1.   NAN2020/AKI/01

RISK FACTORS AND SHORT-TERM RENAL OUTCOMES OF CONTRAST-INDUCED NEPHROPATHY AMONG PATIENTS UNDERGOING CONTRAST IMAGING STUDIES AT AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA

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Introduction: Despite high rate of acute kidney injury in hospitalized patients in Zaria[1], the contribution of radiocontrast agents is unknown. We identified the risk factors for developing Contrast- Induced Nephropathy (CIN) and determined short-term outcome of adults who underwent radiocontrast studies at Ahmadu Bello University Teaching Hospital Zaria.

Methods: A cross-sectional study of 235 subjects who presented at Radiology Department of ABUTH Zaria for radiocontrast investigations. Blood and urine samples were analyzed at baseline, and at 48-72 hours post contrast. Those who developed CIN were seen at 2 weeks; subjects whose kidney function had not normalized were further followed up at 3 months.

Results: Mean age was 49.20 ± 15.44 years while the mean age of those that developed CIN was 63.61 ± 7.00 years. Sex distribution was females 54% (127 subjects), and males 46% (108 subjects). Mean eGFR of subjects that developed CIN and those that didn't were 64.43 ± 6.99 ml/min/$1.73m^2$ and 85.15 ± 19.76 ml/min/$1.73m^2$ respectively. Prevalence of CIN was 13.2% (31 subjects). Risk factors for CIN were: age >60 years, p=0.020, OR=1.3, 95% CI 0.108-5.828; Serum creatinine >1.4mg/dl (123.76 μmol/l), p=0.048, OR=3.7, 95% CI 1.010-12.197; Osmolality of contrast, p=0.009, OR=3.3, 95% CI 1.438-11.935; and eGFR <60ml/min/$1.73m^2$, p=0.029, OR=4.0, 95% CI 2.476-14.879. At three months, 5 of 31 subjects who developed CIN failed to have normalization of renal function with one having sessions of haemodialysis.

Conclusion: The risk of CIN is significant in subjects undergoing iodinated contrast enhanced imaging studies in Zaria; even though most resolve, a notable percentage of patients do not. patients. Developing and enforcing protocols may help to reduce the disease burden.

2.   NAN2020/AKI/02

PREVALENCE OF ACUTE KIDNEY INJURY IN TERM NEONATES WITH SEVERE BIRTH ASPHYXIA IN IBADAN USING THE NEONATAL *RIFLE*

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Introduction: Acute kidney injury (AKI) may be an important cause of poor outcomes in neonates with severe birth asphyxia (SBA) but studies among neonates with SBA in sub-Saharan Africa are sparse
Aim: To determinethe prevalence and factors associated with AKI among neonates with SBA

Methods: Prospective cross-sectional study carried out from October 2016 to July 2017. Risk factors for SBA included nulliparity, prolonged labour, and prolonged rupture of membranes. AKI was diagnosed based on the neonatal RIFLE criteria (nRIFLE). 110 term neonates with SBA admitted into the University College Hospital were evaluated for AKI based on the nRIFLE from the first 48 hours to the 7th day of life.

Results: 71 (64.6%) of the neonates were males. 33 (30%) were inborn. There were more than one risk factors for SBA in 66 (60.0%) neonates.

Sixty (54.6%) of the subjects had AKI using nRIFLE. The place of birth, which is whether inborn or outborn (outside of UCH) was significantly associated with the diagnosis of AKI using nRIFLE (p = 0.042). The presence of more than one risk factor for birth asphyxia was significantly associated with a higher risk for AKI using nRIFLE (p= 0.008). The presence of urine output less than 1.5mls/kg/hour was significantly associated with mortality (p=0.034).

Conclusion: AKI following SBA is quite common; Neonatal urine output monitoring remains useful in the diagnosis and management of post asphyxia AKI.

3.   NAN2020/AKI/03
ACUTE KIDNEY INJURY IN ILE-IFE: A REPORT OF EPIDEMIOLOGY, TREATMENT AND OUTCOMES OF 113 MANAGED CASES

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Introduction: Acute kidney injury (AKI) remains a clinical diagnosis whose treatment is challenging and survival had remained relatively same over the last 3 decades because of changing epidemiology and advancing age of the population. The scenario in developing world including Nigeria is worrisome because of the burden of the disease, the lack of resources to support patients as well as in accessibility of all treatment modalities coupled with late presentation of these patients to health care facilities. The objective of study is to determine the incidence of AKI, treatments offered and its outcome over a ten year period in OAUTHC Ile-Ife.

Methods: Case records of 113 AKI managed patients over a tenyear period were retrieved. Information on the demographic parameters, documented etiologies, laboratory parameters, need for dialysis and its duration where offered, outcome, and follow up were retrieved and analyzed using SPSS version 20. Statistical significance taken at p<0.05.

Results: One hundred and thirteen cases of AKI were reviewed. 47 males and 66 females with the mean age of 37.99 (±17.6) years, 71.2% presented in stage 3 AKI, 66.4 % needed dialysis, 43.4% of the patients were discharged, Mortality rate was 31.9%, 21.2% of the patients discharged against medical advice. Only 1.8% of the patients were followed up for a mean duration of 6 months.

Duration of admission, need for dialysis, stage of AKI and sex were found to significantly influence survival (p<0.05).

Conclusion: Late presentation and need for dialysis contributed significantly to the mortality rate recorded and follow up was quite challenging. This should be improved to ascertain the possibility of incomplete resolution and possible progression after the initial treatment.

4. **NAN2020/AKI/04**
 ACUTE KIDNEY INJURY OUTCOMES AMONG PATIENTS WITH CONFIRMED LASSA FEVER OVER A PERIOD OF 22 MONTHS: A PRELIMINARY REPORT OF THE FEDERAL MEDICAL CENTER OWO EXPERIENCE

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Introduction*:* Acute kidney injury (AKI) is a challenging problem in the developing world especially Nigeria because of the burden of the disease, the lack of resources to support patients with established AKI and the late presentation of these patients to health care facilities. This is infact worsened by the emergence of lassa fever outbreaks in Owo and its environs in the year 2017.This study sought to determine the incidence and outcome of acute kidney injury among lassa fever patients in our centre with the recent availability of a dedicated dialysis center.

Methods: Retrospective data from 416 patients with confirmed lassa fever admitted to Infectious Diseases Ward, Federal Medical Centre, Owo over a period of 22 months were analysed. Data comprise of patients' demographic parameters, need for dialysis, laboratory parameters, duration of hospital admission and outcomes were analysed using SPSS version 20. AKI was classified according to Kidney Disease Improving Global Outcomes (KDIGO) criteria.

Results: There were 416(232 males, 184 females) cases of confirmed lassa fever, reported total death 22(5.2%). Acute Kidney Injury occured in 39 cases (29 MALES, 10 FEMALES) constituting 9.4%, presenting at various stages of AKI according to the KDIGO criteria with the mean age of 42.4 years. Twenty of the cases presented in STAGE 3 of AKI while 6 and 13 presented in stage 2 and 1 respectively. The mortality rate among the confirmed lassa fever complicated by AKI was 30.8% (12 patients, 10 males and 2 female). Hence, more than half of the patients (54.5%) that died of lassa fever had AKI as the complication. All the patients that presented at stage 3 of AKI had hemodialysis offered. while stages 1and 2 were managed conservatively.

Prognostic indices associated with AKI and its outcome includes age, male sex, co-morbidity, late presentation, hypoalbuminemia, anaemia, thrombocytopaenia, and stage 3 of AKI at presentation.

Conclusion: AKI contributes significantly to the overall mortality rate of patients with lassa viral disease.

5. **NAN2020/AKI/05**
CASE REVIEW OF PATIENTS WITH ACUTE KIDNEY INJURY THAT HAD PERITONEAL DIALYSIS DONE AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN

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Introduction: Peritoneal dialysis (PD) has proved to be effective in the treatment of Acute Kidney Injury (AKI) in children, if it is not as a result of complication of a critical illness.

Objective: To describe the demographic features and outcome of peritoneal dialysis in children with AKI

Method: This is a retrospective study conducted between September 2018 to September 2019 on children with AKI who had peritoneal dialysis that was manually done using percutaneous or adaptive catheter at the University College Hospital, Ibadan.

Result: 21 patients between the age of 4weeks to 13years with Mean (SD) of 4.3(3.17) were dialysed, 57.14% were males and 42.86% were females. The cycles ranged between (1-60) with Mean (SD) of 29.3 (15.3). The causes were malaria (33.3%), nephrotic syndrome (4.76%), herbal intoxication (4.76%), intravascular haemolysis (9.52%). Out of the 21 patients that were dialysed, 14 (66.6%) of the patients survived and were discharged while 7 died as a result of severe sepsis and malaria.

Conclusion: PD has been suggested as an effective and safe dialysis modality in children with AKI. Severe sepsis is the leading cause of AKI in this case report, hence early detection, quick intervention and health education to children care givers is important to reduce mortality, prevent risk factors and control infections. PD should be promoted for the management of childhood AKI.

6. **NAN2020/AKI/06**
ACUTE KIDNEY INJURY IN PATIENTS WITH PREGNANCY INDUCED HYPERTENSION: A SINGLE CENTRE EXPERIENCE

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Introduction: Pregnancy induced hypertension (PIH) remains a major cause of feto-maternal morbidity and mortality especially in developing countries. The severe forms (severe pre-eclampsia and eclampsia) are potentially life threatening and may be accompanied by multi-organ involvement. Acute Kidney Injury (AKI) is one of the complications of PIH. We present a single center, 8-year retrospective review of 223 patients with PIH. We aim to determine the spectrum of renal dysfunction in patients with PIH.

Methods: Clinical records of cases managed for pregnancy induced hypertension at the Obafemi Awolowo University Teaching Hospitals' Complex, Ile Ife between Jan 2008 and Jan 2016 were retrieved.A proforma was used to collect information on their demographics, obstetric data, and laboratory parameters, length of hospital stay as well as maternal, renal, and fetal outcomes. Patients with history or clinical evidence of hypertension before 20weeks gestation; diabetes mellitus, or chronic kidney disease prior to pregnancy

were excluded from the analysis.Renal outcomes were defined as AKI or the need for renal replacement therapy (RRT). Data obtained were analyzed using Statistical package for Social Sciences (SPSS) version 22.

Results: There were a total of 223 cases admitted for PIH during the 8-year study period. Mean age at presentation was 29.0 (±5.8) years. Estimated gestational age (EGA) at presentation ranged between 24 – 44 weeks with a mean EGA of 35.2(±4.1) weeks, 48.8% had severe pre-eclampsia while 40.8% of the study population had eclampsia. Mean systolic and diastolic BP at presentation were 172±24mmHg and 110±17mmHg respectively. Fifty-one patients (22.9%) had an admission serum Cr e" 90μmol/L. Thirty two patients developed AKI (14.3%). Their mean serum creatinine at presentation was 204.1± 76.5μmol/L. Of the 32 patients with AKI, 18 (56.3%) had oliguric AKI. Four patients (12.5%) required RRT only, 6 (18.8%) required both RRT and ICU admission while the remaining 22 (68.7%) were managed conservatively. All our patients had at least 1+ proteinuria by dip stick at presentation.Majority of the patients were delivered at term by emergency caesarian section.

Conclusion: AKI remains an important complication of PIH and oliguric AKI is the commonest presentation in the studied population.

7.   **NAN202/AKI/07**
      SURVIVAL OF A CHILD WITH RARE BUT LETHAL HEPATOPATHY: A CASE REPORT

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Introduction: Sickle cell disease is characterized by protean manifestation. Hepatic involvement (sickle cell hepathopathy) usually arise from hepatic sinusoidal sickling and complications from recurrent blood transfusion such as hemosiderosis and hepatitis. Intra hepatic cholestasis remains a rare but lethal extreme variant of sickle cell hepatopathy.

Case: We present a 5yr old known sickle cell disease patient, who presented with a mixture of vaso-occlusive and hyperhemolytic crises with associated severe anaemia. Following admission and blood transfusion, child rapidly deteriorated clinically and lapsed into unconsciousness. Renal and liver function deteriorated rapidly with serum Na 132mmol/l, K – 3.3mmol/l, Cl-97mmol/l, HCO3- 16mmol/l, Urea- 271mmol/l Cr- 4.9mg/dl. Total serum bilirubin 37.20mg/dl, conjugated 25.65mg/dl, total protein 4.7g/dl, albumin 2.5g/dl, ALP 393U/l, AST- 1262U/l, ALT 800U/l. Child had a further fresh whole blood transfusion on account of bleeding diasthesis and thrombocytopenia. Had arthrotomy for septic arthritis, a total of 18 sessions of peritoneal dialysis and was subsequently discharged home.

Conclusion: Sickle cell intra hepatic cholestasis remains the most severe form of sickle cell hepathopathy. As at 2018 only 17 cases have been reported with high mortality. The condition presents rapidly with striking jaundice, bleeding diasthesis, renal impairment and worsening encephalopathy. Urgent and vigorous exchange transfusions have been advocated to be lifesaving. We believe that our patient's survival was due to the peritoneal dialysis offered and other supportive treatment given.

CHRONIC KIDNEY DISEASE

1.   **NAN2020/CKD/01**
     PRELIMINARY RESULTS OF RISK FACTORS FOR COGNITIVE IMPAIRMENT AMONG CKD PATIENTS IN USMANU DANFODIYO UNIVERSITY TEACHING HOSPITAL, SOKOTO.

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Introduction: The association between cognitive impairment and chronic kidney disease has been documented. Cognitive impairment in CKD may affect adherence to treatment, including diet, medications and quality of life, furthermore, it is an independent risk factor for mortality. Hence the need to identify risk factors for cognitive impairment among CKD patient in our study.

Methods: All consecutively seen, eligible and consenting CKD patients e" 18 years with no barrier to Neuropsychological assessments were recruited between June – August, 2019. Structured proforma was used for data collection including the Montreal Cognitive Assessment (MoCA). SPSS version 20.0 was used for data analysis.

Results: 40 participants were recruited with M:F ratio of 3:1. Mean age was 45.03 ± 12.89 years. 89.7% of the CKD patients were cognitively impaired using MoCA scores of 26 as cut off. Significant difference was seen in the MoCA scores of cognitively impaired compared to cognitively normal patients. (17.69 ± 3.28 and 27.75 ± 1.26). BMI and systolic blood pressure were found to be associated with cognitive impairment ($p = 0.004$ and $p = 0.047$ respectively). No association was found with waist circumference, diastolic blood pressure, aetiology of CKD, duration of diagnosis of CKD and eGFR.

Conclusion: Cognitive assessment should form part of evaluation of CKD patients.

2.   **NAN2020/CKD/02**
     CHRONIC KIDNEY DISEASE AND ITS COMPLICATIONS: A MAJOR INDICATION FOR ADMISSION AND POOR OUTCOME ON MEDICAL WARDS

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Introduction: Chronic kidney disease (CKD) prevalence has been reported to have risen exponentially in the last 2 decades though data from developing countries including Nigeria remains sparse. Publications on CKD from Nigeria have reported poor outcomes occasioned by inaccessibility or unaffordability of treatment modalities which imply that we should focus more on preventive strategies. The objective is to determine the proportion of CKD diagnosis on medical wards as compared with other common diagnosis as well as the outcomes.

Methods: Admission data from the medical wards of Federal Medical Centre Abeokuta, were retrieved and information on the demographic parameters, documented diagnoses, duration of admission and survival were retrieved and analysed using descriptive statistics. Where necessary statistical comparisons were done using computerised program for epidemiologic analysis. Statistical significance taken at $p<0.05$.

Results: A total of 525 medical admissions were reviewed comprising 270 males and 255 females with a male: female ratio of 1:1.06 and the mean(±SD) age was 49.6 (±18.3) years. Out of the 525 admissions, CKD diagnosis constituted 128 (24.3%). Diagnosis of Congestive cardiac failure, Cerebrovascular disease, Hypertension and its complications (other than heart or renal failure), Diabetes Mellitus and its complications, Acute kidney injury and Chronic liver disease were made in 83(15.8%), 35(6.6%), 35(6.6%), 25(4.8%), 14 (2.6%) and 10(1.9%) with other different diagnoses individually constituting less than 1% of medical admissions. The duration of admission ranged between less than 1 and 56 days though a total of 205 (39%) patients were each admitted for less than 10 days. A total of 446 (85%) patients were discharged is stable clinical states, 28 (5.3%) discharged against medical advice while 75 (14.3%) of the patients died.

Conclusion: CKD and its complications are a major indication for admissions on medical wards and overall mortality is very high. Early presentation of patients with subsidized cost of care would assist in reversing this ugly trend.

3.   NAN2020/CKD/03
A 10-YEAR REVIEW OF KIDNEY DYSFUNCTION IN PATIENTS WITH BLADDER OUTLET OBSTRUCTION IN OAUTHC, ILE-IFE, SOUTHWEST NIGERIA

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Introduction: Obstructive nephropathy from bladder outlet obstruction (BOO) is a leading cause of renal dysfunction in the world and it is the 4th commonest cause of chronic kidney disease in our society.
The objective of this review was to determine the patterns of presentation, aetiology, associated or complicating kidney dysfunction, management modalities and renal outcomes of the patients with bladder outlet obstruction (BOO) that presented in our hospital in the last 10years.

Methods: This was a retrospective study. Case files of patients that presented with bladder outlet obstruction over a 10-year period from January 2009 to January 2019 were retrieved and data was extracted using a proforma. Data analysis was done using SPSS version 25.

Results: Seventy-nine patients with bladder outlet obstruction with a mean (± SD) age of 66 (± 9.7) years. All reviewed patients were males. The common aetiologies of BOO were benign prostatic hypertrophy (64.5%), Cancer of the prostrate (18.1%), urethra stricture (13.2%) and bladder neck stenosis (5.6%). Presenting symptoms included urgency (41.6%), frequency (51.9), terminal dribbling (53.2%) and nocturia (35.1%). About seventeen (16.9%) presented with acute urinary retention while 26.0% had chronic urinary retention. While the majority 39 patients (49.4%) had no evidence of renal dysfunction, the commonest pattern of renal dysfunction encountered at presentation were Acute with background CKD (19%) followed by CKD (17.7%) and AKI (13.9%). 41 patients (59.42%) had urinary diversion at initial presentation and only 3(4.35%) had haemodialysis. The outcome was excellent in 40.5% of the patients who had full renal recovery while the others were either not as good or lost to follow-up.

Conclusion: Obstructive nephropathy from bladder outlet obstruction is a common cause of kidney dysfunction and the relieve of the obstruction led to restoration of full renal function in some of these patients. Consequently, prompt relief of obstruction should be undertaken in such cases to increase the chances of renal recovery.

4. **NAN2020/CKD/04**
    PATTERN AND OUTCOME OF RENAL ADMISSIONS AT USMANU UNIVERSITY TEACHING HOSPITAL, SOKOTO

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Introduction: The pattern of medical admissions varies across regions with a trend towards non-communicable diseases (NCDs). Kidney diseases particularly chronic kidney disease (CKD) is a key determinant of the health outcomes of NCDs and thus, adding to the burden of medical disorders in hospitals. The study aims to determine the pattern and outcome of renal diseases in patients admitted into the medical wards of UsmanuDanfodiyo University Teaching Hospital (UDUTH), Sokoto.

Methods: This was a retrospective study conducted at UDUTH from data of morbidity and mortality register generated between January 2015 to December 2018.

Results: A total of 8, 810 patients were admitted during the period with renal diseases constituting 10.25% of all admissions. Males were more affected than females with a M: F of 1.8:1. Chronic kidney diseases (CKD) accounted for 64.8% of all renal admission followed by urinary tract infection (16.2%) and acute kidney injury (15.5%). The mean duration of stay of patients with renal diseases was 10 ± 7.7. Mortality from renal diseases was 13.4% with CKD accounting for 72.2%.

Conclusion: Renal diseases constitute a significant percentage of medical admissions and contribute significantly to morbidity and mortality.

5. **NAN2020/CKD/05**
    CLINICAL OUTCOMES OF AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE IN ILORIN – A 10YEARS REVIEW

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Introduction: Autosomal dominant polycystic kidney disease (ADPKD) is the most common inherited cystic kidney diseases causing end-stage renal disease. Data is required on the outcomes of the disease in our population, to aid management options that may reduce the burden of the disease.

Methods: This is a retrospective study of 46 patients with ADPKD University of Ilorin Teaching Hospital, Ilorin over a 10-year period, between 1st July, 2009 and 1st July, 2019. The patients' demography, clinical characteristics, and laboratory test results were retrieved from their case notes, and analyzed. The clinical outcome measures were end-stage kidney disease, initiation of dialysis and disease-related death. The data was analysed using statistical package for social sciences version 23.

Results: The mean age of the patients was 47 ± 15years with a male to female ratio of 1.6:1. The mean systolic blood pressure was 130 ± 30 mmHg, while the mean diastolic blood pressure was 88 ± 13mmHg. The median serum creatinine was 224umol/l, while the median estimated glomerular filtration rate was 27.5 ml/min/1.73m². The mean haemoglobin concentration was 10.74 ± 2.55g/dl. Thirty-five (76.1%) patients were hypertensive, 34 (73.9%) had anaemia, 33(71.7%) had haematuria, 30(65.2%) presented with loin pain and

22(47.8%) had pedal oedema. Seventeen (37%) patients progressed to end-stage renal disease, while 6(13%) patients commenced haemodialysis and 3 (6.5%) died from the disease-associated cause.

Conclusion: Significant proportion of the patients with ADPKD progressed to end-stage kidney disease within 10years. Future research is needed to determine predictors of disease progression in our population that may inform specific treatments.

6.   **NAN2020/CKD/06**
      AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE (ADPKD) IN ILE-IFE, NIGERIA: A REPORT OF CLINICAL PRESENTATION AND OUTCOME OF 100 PATIENTS

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Introduction: Autosomal dominant polycystic kidney disease (ADPKD) is the commonest form of genetically inherited kidney disease worldwide but was hitherto thought to be a rare disease in Africa as evident by the dearth of publications on it.

Methods: All patients who satisfied the diagnostic criteria over a 24 year period (December 1 1995 and November 30 2019) were reviewed to assess pattern of clinical presentation and outcomes with a view to identify those that portend worse outcome. The clinical diagnostic criteria used was the modified Ravine's criteria of at least 3 cysts in one kidney for patients aged 15-39 years, 2 cysts in each kidney for patients between 40-59 years and at least 4 cysts in each kidney for patients above 60 years with or without family history of ADPKD. Clinico-laboratory parameters were assessed, including presenting complaints, presence of extra-renal features, family history of ADPKD, serum chemistry and haematologic parameters. Data was analyzed using SPSS statistical software version 21.

Results: A total of 100 patients fulfilled the diagnostic criteria and there was a Male: Female ratio of 1:1.04. Mean age at diagnosis was 42.51 ($\pm$ 15.57) years. Age at diagnosis was slightly higher in females though this was not significant. (44.31$\pm$14.67 vs.40.63 $\pm$ 15.40 years). Median (range) follow up period for all patients was 23.37 (0.25-196) months. Majority (80%) of the patients presented with hypertension, while loin pain and nocturia was seen in 71% and 52% patients respectively. The commonest extra renal feature was liver cysts present in 32% of the patients with a significant female to male ratio of 2.2:1. (p=0.01). 38% of the patients had at least an episode of haematuria and there was also an equal sex distribution. 63% of the patients had left ventricular hypertrophy while 23% and 3% had aortic regurgitation and mitral valve prolapse respectively. On MRI, 2 patients had intra-cerebral aneurysm while 6 patients were discovered to have aneurysm and intra-cerebral bleed at autopsy. Also, one patient had an aneurysm of the Sinus of Valsalva. The median eGFR (CKD-EPI) was 10.90mls/min (range 1-128 mls/min). Forty-one (41%) patients had haemodialysis while 3(3%) and 1(1%) had peritoneal dialysis and transplant respectively. Thirty (30%) patients died and uraemia was the commonest cause of death seen in 28 of them, hence, portends worse prognosis. Sixty (60%) of these patients presented within the last decade.

Conclusion: With improvement in diagnostic facilities, ADPKD is increasingly becoming a common cause of CKD and renal failure in our environment and hypertension remains the commonest mode of presentation. Efforts need to be made to increase awareness and family screening should be encouraged.

NEPHROLITHIASIS

1.   NAN2020/NEP/01
       THE EFFECTIVENESS OF TRIPLE PHARMACOTHERAPY WITH CYSTONE, POTASSIUM CITRATE AND DITROPAN IN THE MANAGEMENT OF CHILDREN WITH UROLITHIASIS

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Introduction: The management of urolithiasis in children in resource-poor countries can be challenging due to a shortage of facilities for lithotripsy and surgical expertise. Pharmacotherapy has mostly remained an unexplored option in this clime. This study aims to evaluate the effectiveness of a triple pharmacotherapy in the treatment of childhood urolithiasis.

Methods: Children diagnosed with urolithiasis in the Paediatric Nephrology Firm of the University of Nigeria Teaching Hospital Ituku-Ozalla within a 2-year period (2017-2019) - who had triple pharmacotherapy with cystone, potassium citrate, and ditropan - were studied retrospectively. The passed stones were not analyzed for chemical composition due to the unavailability of laboratory facilities.

Results: During the period of study, ten children aged between 5 and 14 years were diagnosed and managed for urolithiasis. The diagnosis was confirmed in all the children with an ultrasound scan. The stones were of various sizes: averagely measuring 4.9 mm in the smallest diameter and 21.5 mm in the largest diameter. Multiple stones were reported in two (20%) patients. Within one week to 3 weeks of the triple combination therapy, six (60%) patients reported the passage of stones while four (40%) experienced symptom-resolution but did not report the passage of stones. Recurrence of symptoms and reappearance of stones were documented in two (20%) patients following the withdrawal of treatment.

Conclusion: Triple pharmacotherapy with cystone, potassium citrate, and ditropan may be an effective treatment for childhood urolithiasis. Prospective multi-centre studies with large sample sizes are recommended to validate this finding.

CARDIOVASCULAR DISEASE

1.   NAN2020/CVD/01
       COMPARATIVE PERFORMANCE OF ELECTROCARDIOGRAM AND ECHOCARDIOGRAM IN THE DIAGNOSIS OF LEFT VENTRICULAR HYPERTROPHY AMONG NIGERIANS WITH CHRONIC KIDNEY DISEASE.

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Background: Left ventricular hypertrophy (LVH) has been shown by many studies to be the most common cardiac abnormality in patients with chronic kidney disease (CKD) and serves as an independent important risk factors for angina pectoris, myocardial infarction, heart failure, stroke and sudden death in CKD. Most

patients with CKD will ultimately succumb to cardiovascular death. It is therefore pertinent that LVH is diagnosed promptly and adequately. Diagnosis of LVH will depends largely on the tools of assessment. This study compared the performance of electrocardiogram (ECG) and echocardiogram (ECHO) in diagnosis of LVH among CKD patients.

Methods: A total of 60 patients with CKD attending the Renal clinic of the University College Hospital, Ibadan were enrolled for the study. A structured questionnaire was administered on all participants and information obtained were biodata, medical history, behavioural risk factors and medication history. Blood sample was collected for biochemistry and lipid profiles; ECG and ECHO were performed on all the participants.

Results: The mean age and the body mass index among CKD patients were 50.53 ± 12.7 years and 24.98 ± 5.0kg/m^2 respectively. Male accounted for 60.0% of the participants while 60.0% of the cohort were on haemodialysis (HD). LVH using ECH and ECHO were 29 (48.3%) and 48 (80.0%) respectively. However, the proportion of patients on HD that had LVH as against those without LVH using ECG was 20 (55.6%) versus 16 (44.4%), $p > 0.05$, and using ECHO, it was observed to be 33 (91.7%) versus 3 (8.3%), $p < 0.05$.
Conclusion: This study shows that echocardiography is a better diagnostic tool in early detection of LVH among CKD patients compared to Electrocardiogram.

2. **NAN2020/CVD/02**
   ELECTROCARDIOGRAPHIC INDICES AND PERIPHERAL VASCULAR DISEASE AMONG PREDIALYTIC CKD PATIENTS

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Background: Chronic kidney disease (CKD) is associated with increased cardiovascular morbidity and mortality. It is not known whether abnormalities of cardiac rhythm are associated with bioelectric impedance analysis (BIA) or whether resting electrocardiogram findings are associated with peripheral vascular disease (PVD) in the CKD setting.

Methods: The study design was cross-sectional, case-control study of 45 pre-dialytic CKD patients and 45 age- and sex-matched controls. CKD was defined by an estimated eGFR < 60ml/min/1.73m^2. All patients underwent 12 lead electrocardiogram (ECG), BIA and ankle-brachial index (ABI) measurements. Phase angle was calculated as arctangent of (X/R). Peripheral vascular disease was estimated using ABI.

Results: Patients with CKD had prolonged QRS interval, higher prevalence of left ventricular hypertrophy and lower impedance values compared with those without CKD. Prevalence of PVD was 31.1% in CKD patients compared to 11.1% in non-CKD patients. Phase angle correlated with heart rate (r = -0.351; p=0.001), prolonged QRS duration (r=0.278; p=0.010) and prolonged corrected QT (QTc) interval (r = -0.248; p=0.022) while eGFR correlated with impedance (r=0.313; p=0.004), prolonged QRS duration (r = -0.404; p<0.001), prolonged QTc (r = -0.224; p=0.036) and ABI (right; r = -0.284; p=0.008, left: r = -0.262; p=0.014). LVH was associated with 65-fold greater risk for PVD (95% CI: (1.05 – 4073.54, p=0.047) while prolonged QRS interval was associated with 1.2-fold rise in PVD (95% CI: (1.02 – 1.39, p=0.023).

Conclusion: Resting ECG abnormalities are common in pre-dialytic CKD patients, correlated with BIA parameters and independently predict PVD in pre-dialytic CKD.

3.   NAN2020/CVD/03
BIOELECTRICAL IMPEDANCE ANALYSIS AND RENAL FUNCTION IN NIGERIANS

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Introduction: Volume overload occurs early in CKD resulting in increased cardiovascular morbidity and mortality. Bioelectrical impedance analysis (BIA) is a quick, non-invasive and reproducible technique for the assessment of fluid overload. However, there is paucity of data for BIA in both healthy and CKD populations in Nigeria.

Objectives: We performed a cross-sectional study of BIA in 363 Nigerians (including 150 CKD patients and 213 controls) to assess the association between BIA-derived measurements and renal function.
Methods: BIA was conducted on all subjects and phase angle was calculated as arctangent of reactance divided by resistance (X/R). Estimated GFR (eGFR) and protein-creatinine ratio (PCR) were measured and CKD was defined by an eGFR < 60ml/min/1.73m^2 and/or proteinuria.

Results: Mean ($\pm$ SD) age was 45.1 ($\pm$ 15.3) years, 50.4% were males, and 41.3% had CKD. Median eGFR was 34 (20-47) and 101 (86-120) ml/min/1.73m^2 in patients and controls, respectively. CKD patients had significantly lower resistance (p<0.001), reactance (p=0.002) and higher phase angle (p=0.038) compared to controls. eGFR directly correlated with resistance (r=0.27; p<0.001) and reactance (r=0.16, p=0.003) while PCR inversely correlated with resistance (r=-0.30; p<0.001) and reactance (r= -0.37; p<0.001). Phase angle was inversely related to PCR (r= -0.21; p=0.001). Phase angle independently predicted CKD (odd ratio, 2.9; 95% confidence interval: 1.1-7.5, P=0.028).

Conclusion: BIA parameters correlated with markers of renal function, and phase angle was a strong predictor of CKD in Nigerian population. Longitudinal study of phase angle will be required to determine the optimal role for BIA in Nigerian CKD patients.

4.   NAN2020/CVD/04
THE PREVALENCE OF ELEVATED SERUM TROPONIN T AND ITS ASSOCIATION WITH LEFT VENTRICULAR HYPERTROPHY IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN ILORIN

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Introduction: Left ventricular hypertrophy is the most frequent cardiac alteration in chronic kidney disease (CKD) patients and it is associated with poor outcome. Troponin T, a contractile protein has been found to be elevated in CKD patients who have no ongoing myocardial necrosis. Little is known about the relationship between elevated troponin T and LVH in CKD patients in our environment. This study assessed the clinical relationship between serum elevated troponins T in patients with CKD and LVH in our patient population.

Methods: this was an hospital- based study cross-sectional study of 110 patients with CKD who were seen in the nephrology clinic, the renal ward and the general medical ward at the University of Ilorin Teaching Hospital and 110 age and sex matched controls who had no CKD. Informed consent and relevant information were obtained using a study proforma. Biochemical parameters (Troponin T, serum creatinine, lipid profile) of both patients and controls were analyzed. Electrocardiogram (ECHO) and Echocardiogram (ECG) were

carried out on all patients. Troponin T assay was done using ELISA third generation kit while ECG was done using the GE MAC 1200 ST Electrocardiogram. ECHO was done using the Sonoscope 2D model machine. Data was analysed using descriptive and inferential statistics on an SPSS software version 23.Level of statistical significance was set at p < 0.05.

Results: The mean age of the patients with CKD was 55±14 years while that of the control was 52±14 years. The median value of creatinine in the cases category was 160(121-224) µmol/l while the median value in the control participants was 74(51-84) µmol/l. The median eGFR was 39(26-52) ml/min/1.73m^2 in the cases, while in the control participants, the median was 118(87-143) ml/min/1.73m^2. The median value for serum troponin T was 0.78(0.15-1.25) µg/l in the case participants was significantly higher than the control participants who had a median of 0.09(0.07-0.09) µg/L. P<0.001.Eighty-one (91.4%) participants of the eighty-six participants with CKD who had   elevated troponin T had LVH.

Conclusion: Cardiac Troponin T is elevated is chronic kidney disease patients particularly haemodialysis patients. Cardiac troponin T should be incorporated as a screening tool in patients with CKD.

5.   **NAN2020/CVD/05**
         THE PREVALENCE, PATTERN AND PREDICTORS OF HYPOVITAMINOSIS D IN PATIENTS WITH CKD: A STUDY IN A TERTIARY HOSPITAL IN NIGERIA

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Introduction: Hypovitaminosis D is associated with progression of CKD and its complications, however, little is known about the pattern of occurrence of hypovitaminosis D and its relationship with other characteristics among patients with CKD in Nigeria. In this study, we determined the prevalence of hypovitaminosis D and its relationship with kidney function and markers of cardiovascular disease.

Methods: We carried out a cross-sectional study of 135 patients with CKD and 135 age-, sex- -matched control participants. CKD was defined as estimated glomerular filtration rate (GFR) of < 60 ml/min/1.73m^2 and/or persistent albuminuria (urine albumin excretion rate [AER] e" 30 mg/24 hours or urinary albumin-creatinine ratio (uACR) of e" 30mg/g) for e" 3 months. We measured urinary albumin-creatinine ratio (uACR), recorded electrocardiography and echocardiography on the participants. We assessed the relationship between vitamin D and socio-demographic, clinical and laboratory parameters by Pearson's correlation analysis, and determined independent predictors of hypovitaminosis D by multivariate linear regression.

Results: The prevalence of hypovitaminosis D amongst the patients was 82.2% (48.1% had vitamin D insufficiency, 28.1% mild vitamin D deficiency and 5.9% severe vitamin D deficiency.
Patients who were elderly (>65 years), under-weight or obese, anaemic and those in socio-economic classes I and V had lower mean vitamin D levels. Serum vitamin D correlates inversely with left ventricular mass index (r= - 0.555, *p* value < 0.001), uACR (r = -0.367, *p* value < 0.001) and systolic blood pressure (r = - 0.244, *p* value 0.004); and positively with eGFR (r = 0.354, *p* value < 0.001). The predictors of hypovitaminosis D were; eGFR, uACR, and the left ventricular mass index (LVMI) with overall coefficient of determination (R^2) of 0.391, p = 0.001.

Conclusion: Hypovitaminosis D is common amongst patients with CKD in the University of Ilorin Teaching Hospital and the main predictor is reduced kidney function.

6.   **NAN2020/CVD/06**
      RENAL DYSFUNCTION IS A POOR PROGNOSTIC FACTOR IN ACUTE STROKE PATIENTS IN NORTHEASTERN NIGERIA

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Introduction: Chronic kidney disease (CKD) and stroke share many common risk factors and the presence of CKD confers added risk factors for stroke. Knowledge about the close relationship between kidney and brain is also receiving attention. In this study the prevalence and impact of CKD among acute stroke patients was studied.

Methods: The study is a prospective study carried out in the neurology unit of University of Maiduguri Teaching Hospital Maiduguri, northeastern Nigeria. Study population consisted of adult patients (>18 years) admitted in the medical wards with a diagnosis of acute stroke. Socio-demographic variables and biochemical parameters were obtained from each patient. Patients' functional status assessment by modified Rankin scale, Barthel index and National institutes of Health stroke score were also obtained at recruitment and at discharge. Glomerular filtration rate (GFR) was calculated using the Modification of diet in renal disease equation. Patients who have estimated GFR <60ml/minute/1.73M^2 were considered to have chronic kidney disease. Patients were grouped into A: with GFR < 60ml/minute and B: GFR >60ml/minute.

Results:A total of 448 were recruited, out of which 275 (61.4%) males and 173 (38.6%) females. Their ages ranged from 38 to 89 years with mean age ±SD 53.85±18.13 years. The mean e-GFR of the studypopulation was 66.55±30.49ml/minute. Two hundred and twenty-five (50.2%) had renal dysfunction with GFR <60ml/minute. They have longer hospital stay with mean duration of 45.66±39.90 days and severer residual disability at discharge.

Conclusion: Renal dysfunction is common among patients admitted with acute stroke in Maiduguri northeastern Nigeria.

7.   **NAN2020/CVD/07**
      SPECTRUM OF RENAL DISORDERS AMONG ADMITTED CHILDREN WITH SICKLE CELL DISEASE IN A PAEDIATRIC NEPHROLOGY UNIT

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Introduction: Patients with sickle cell disease (SCD) are at increased risk of developing a spectrum of renal complications referred to as sickle cell nephropathy (SCN). SCD patients are susceptible to acute injuries that increase risk of progression to end-stage renal disease. We therefore sought to determine the spectrum of renal disorders necessitating hospital admission in these children for purposes of advocating for appropriate preventive measures and management.

Methods: Data obtained from the data base of the PNU of the UCH Ibadan on children with SCD aged below 18 years, admitted with clinical features of renal dysfunction over a 10-year period was studied. Their demographic profiles, the clinical syndromes they suffered and treatment outcomes were analysed.

Results: Forty-two children with SCD were admitted with symptomatic renal disorders, 76.2% being males. Their ages ranged between 2 and 17 years with a mean age of 8.8 (SD 3.5) years. Six (14.3%) were aged below 5 years; 50% between 5 and 10 years while 35.7% were aged e"10 years. AKI occurred in 45.2% of the patients, followed by nephrotic syndrome (28.6%), urinary tract infection (7.1%), chronic kidney disease (CKD) in 7.1% and others. The diagnosis of SCD was made in two patients for the first time when they presented with AKI. Fifteen (78.9%) of AKI patients were dialyzed. In-hospital mortality was 4.9%.

Conclusion: A high index of suspicion is needed to avoid missing the major disorders highlighted in this study and tests of kidney function should be mandatory in these patients.

HEALTH SERVICE DELIVERY AND EDUCATION

1. **NAN2020/HSD/01**
    RESIDENTS-AS-TEACHERS: NEEDS ASSESSMENT OF RESIDENTS TEACHING SKILLS IN CLINICAL SETTING USING DIRECT OBSERVATION OF TEACHING

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Introduction: The majority of residents have not received formal training in education despite their pivotal role in undergraduate medical education, and may be adopting ineffective teaching strategies. Many residents-as-teachers (RaT) programme established to improve the teaching proficiency of residents were put in place without a context-specific needs assessment to identify the existing strengths and deficiencies in the residents' teaching skills.

Objectives: To determine residents' self-perceived and true learning needs for facilitating learning in the clinical setting, residents' self-perceived important topics that could be included in a RaT curriculum, and residents' preferred methods of instruction for a RaTprogramme.

Methodology: This cross-sectional, observational, quantitative inquiry was conducted at LAUTECH Teaching Hospital, Ogbomoso, Nigeria. The study population consisted of 2 groups of residents (Group A, whose clinical teaching sessions were observed, and Group B, who were not observed). The study utilized a self-administered questionnaire, and the Maastricht Clinical Teaching Questionnaire.

Results: 39 (78%) out of 50 residents participated in the study, and 62 medical students provided 82 evaluations on 20 Group A residents. 26 (66.7%) residents had no formal training in teaching. The residents' self-perceived learning need were in the domains of '*exploration*' and '*scaffolding*'. Residents' true learning needs were in the domains of '*modelling*', '*coaching*', '*reflection*', and '*exploration*'. The perceived important topics were communication skills, leadership, and teaching of procedural skills; and the preferred methods of instruction were interactive sessions with teachers, and working in small group with a facilitator.

Conclusion: The study findings argue for the establishment of a RaTprogramme and identify important curriculum design features.

2. NAN2020/HSD/02
HEALTH RELATED QUALITY OF LIFE OF PATIENTS LIVING WITH CHRONIC KIDNEY DISEASE IN TWO TEACHING HOSPITALS IN OYO STATE

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Introduction: Chronic Kidney Disease (CKD) is a devastating medical condition which impact significantly on health-related quality of life (HRQoL) of patients living the disease.

Objective: This study aims to examine the HRQoL of patients living with CKD compared to the healthy individuals at the University College Hospital (UCH), Ibadan and LAUTECH Teaching hospital, Ogbomoso.

Methods: This is a case control study assessing the quality of life of 130 patients living with CKD compared to 130 healthy individuals. A self - structured questionnaire, Kidney disease quality of life (KDQOL)instrument, haemodialysis demographic form and check list for healthy individuals was used to collect data between May 2017 and September 2017.

Results: Findings from the study revealed that the HRQoL of individuals on haemodialysis were significantly relatively lower than patients that had CKD but were yet to commence haemodialysis ($P<0.05$). In all subscales, the individuals living with CKD had a significantly lower QoL than the control ($P<0.05$).

Conclusion: Patients on haemodialysis had reduced quality of life compared to individuals that were yet to commence haemodialysis, hence there is need for regular assessment of HRQoL of patients in an effort to address the issues of compromised quality of life thus ultimately enhancing their quality of life.

3. NAN2020/HSD/03
A PRELIMINARY REPORT ON HYPERTENSIVE RETINOPATHY IN CHRONIC KIDNEY DISEASE PATIENTS SEEN IN A TERTIARY CENTRE IN NORTHWEST NIGERIA

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Introduction: Hypertensive retinopathy (HR) is a common but often ignored phenomenon in chronic hypertension whose link to chronic kidney disease (CKD) has not been well investigated, especially in sub-Saharan Africa.

Methods: This was a cross-sectional study that involved CKD patients on follow-up at our outpatient clinic. The Mitchell-Wong modification of the Keith-Wagener-Barker grading system was used to grade retinopathy and data was analysed using SPSS 25.

Results: Fifty-seven participants were recruited with a median age of 50 years and male to female ratio of 1.07:1. The mean duration of follow-up was 11.8 ± 14.8 months, while the commonest cause of CKD was hypertension (31.6%). Majority of the participants (75.6%) presented at stage 3 CKD or later. Mean systolic and diastolic blood pressure were 160.5 ± 33.1 and 98.9 ± 21.2 mmHg respectively. 59.7% (n = 34) of the

participants had features of HR and positive correlation was demonstrated between advancing CKD stage and severity of HR. Multivariate analysis demonstrated that worsening blood pressure, and severity of HR were independently associated with advancing CKD.

Conclusion: Hypertensive retinopathy is associated with more severe CKD presentation, therefore routine fundoscopic examination for CKD patients is encouraged.

4. **NAN2020/HSD/04**
   THE UTILITY OF RENAL ULTRASOUND SCAN IN PREDICTIVE DIAGNOSIS OF HIV ASSOCIATED NEPHROPATHY

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Introduction: HIV-Associated Nephropathy (HIVAN) has been documented as the most common cause of chronic kidney disease(CKD) in HIV-infected patients but with declining prevalence. Although 30-55% of patients with clinical suspicion of HIVAN have lesions other than HIVAN at biopsy, kidney biopsy which is the gold standard for HVAN diagnosis is not easily accessible in many developing countries. Hence clinicians employ alternative diagnostic tools including the presence of normal sized echogenic kidneys to predict HIVAN diagnosis.

Aim: To determine renal ultrasound scan utility in predicting histological diagnosis of HIVAN.

Methods: This prospective cohort study compared the renal ultrasound scan diagnosis of HIVAN in adult HIV-infected CKD patients and their histological diagnosis after they underwent real-time ultrasound-guided renal biopsy. Data was analyzed using SPSS version 23.

Results: There were 61 adult HIV-infected CKD patients, 26(42.6%) were males and 35(57.4%) females. Mean age was 43.39 ± 10.18 years (males=44.23 ± 10.41, females=42.77 ± 10.11, t=0.55,p=0.574). Histological prevalence of HIVAN was 23%. All patients had normal sized kidneys having a mean right and left kidney lengths of 10.43 ± 0.73 and 10.40 ± 0.82 cm respectively. Using the presence or absence of renal echogenicity to predict the diagnosis of HIVAN, table 1 shows false positive rate was 87.2%, false negative rate was 7.1%, while the sensitivity and specificity were 92.9% and 12.8% respectively. Diagnosis of HIVAN with Renal ultrasonographic scan and histology were 41 (87.2%) and 13 (92.9%) respectively.

Conclusion: Although ultrasound is useful in CKD patients' work-up,its low specificity and high false positive rate make it unreliable for predictive HIVAN diagnosis.

5. **NAN2020/HSD/05**
   MULTI- DRUG RESISTANT URINARY TRACT INFECTION: A CASE REPORT

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Introduction: Urinary tract infection(UTI) is a common complication of posterior urethral valve. There have been growing concern over the increasing prevalence of multi-drug resistant UTI. Urological

abnormalities, chemoprophylaxis, recent UTI or hospital admission have been identified as risk factors. We present a 17 months old boy with multidrug resistant UTI following valve ablation.

Case report: A 17 months old boy presented in our facility with 2 months history of recurrent fever, dysuria, straining on micturition and cloudy urine following valve ablation on account of posterior urethral valve. Child had different antibiotics ranging from ampicillin-sulbactam, genticin, cefuroxime, ciprofloxacin, Imipenem and ceftazidime over the last 7 weeks before presentation. Urine mcs initially yielded E. coli, which was resistant to most available antibiotics but only sensitive to cefuroxime which had been used without improvement, hence child had additional cefepime, chloramphenicol and nitrofurantoin over the next 20 days on admission. Subsequently antibiotics were withheld for 48hours and a fresh urine sample for mcs yielded P. aeuriginosa, resistant to all antibiotics tested but only with intermediate sensitivity to Piperacillin-Tazobactam which child had for another 6 days. However due to persistence of symptoms all antibiotics were discontinued and fosfomycin was commenced. Child had 2 doses of fosfomycin with subsequent resolution of fever in 72hours and urine cleared over 1 week, thus child was subsequently discharged.

Conclusion: Multi-drug resistant UTI continues to spread globally, identified risk factors are continuously been evaluated. Guidelines for prevention and management are necessary to forestall complications.

6.   **NAN2020/HSD/06**
      BURDEN OF DISEASE AND QUALITY OF LIFE OF FIRST-DEGREE RELATIVES AND CAREGIVERS OF PATIENTS WITH CHRONIC KIDNEY DISEASE

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Introduction: Chronic kidney disease (CKD) is a disease of public health importance that poses enormous burdens to the individual affected and the economy of most nations of the world. The burden to the affected individuals includes psychological, economical, functional ability, lifestyle changes, and independence status. Often, a lot of attention is given to the affected individuals, whereas the caregivers are usually not considered to share in the burden of CKD. The informal caregivers consist of relatives and non-relatives. The members of the family as a caregiver do not only has increased risk of CKD due to shared environmental and genetic factors but also shared in the economic and psychological burden of CKD. This study aimed to assess the burden of CKD in relative and non-relatives of patients with CKD.

Methods: This is a cross-sectional analytical descriptive study of the first degree relatives (FDRs) of patients with CKD (FDR) and other non – formal caregivers. The research instruments were in four parts, the sociodemographic data and 3 disease burden instruments. The 3 diseases burden questionnaires include World Health Organization Quality of Life in Brief (WHOQL–BREF), Caregivers Questionnaire (CGQ) and Zarit burdens of disease questionnaire. Data was analyzed using SPSS version 22.

Results: A total of 305 informal caregivers were enrolled in the study, 258 (84.6%) were relatives while 47 (15.4%) were non-relatives. The relatives were mostly FDRs (68.6%), the mean age of participants was 38.1 ±9.2 and 173 (56.7%) were females. The mean scores of disease burdens were 90.1±12.7, 21.5± 6.1, 24.5 ± 13.6 for WHOQOL-BREF, CQG and Zarit tools respectively. Using the 3 parameters, increased burdens of CKD on caregivers were in 145 (47.5%), 180 (59.0%) and 190 (62.3%) for WHOQOL-BREF, CQG and Zarit tools respectively.

Conclusion: Majority of caregivers in the cohort were young people and there is high burden of disease among caregivers of patients with CKD.

7.   **NAN2020/HSD/07**
     PROXIMATE ANALYSIS OF CALORIC DENSITY OF MEALS SERVED TO RENAL PATIENTS FROM THE DIETETIC DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL, IBADAN, OYO STATE

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Introduction: Acute renal failure is characterized by rapid decline in renal function. As a result, excretion of nitrogenous waste is compromised and fluid and electrolyte balance cannot be maintained (Agrawal et al, 2000). The goal of dietary management is to reduce the amount of excretory work demanded by the kidneys while helping them maintain fluid, acid-base, and electrolyte balance. Patients require sufficient protein to prevent malnutrition and muscle wasting. Too much protein, however can contribute to uremia. Renal diets need to be high in energy density high in carbohydrates and fat. The use of high quality protein sources with a balance of amino acids is critical (such as animal proteins and egg). Protein loss through the glomeruli is considered to be damaging to the tubules and this could result in progression of renal disease (Adams LG. et al 1990).

This study therefore investigates the proximate analysis of caloric density of meals served to renal patients from the Dietetic Department, University College Hospital, Ibadan, Oyo State.

Methods: All food samples served within a week was collected at the serving point at the dietetics kitchen. Each portion of the food items were weighed and aseptically kept separately in sterile labelled polythene bags. The collected samples were then transported immediately to the laboratory and analyzed forthwith using AOAC (2006) procedures.

Result: The result of the proximate analysis showed that an average of 29.77g(Protein), 19.78g(Fat) and 378.95g(carbohydrates) were served to the lying-inward patients per day during the one week collection of meals served. The energy density of the food samples was calculated from the values of the proximate determination assuming that protein, carbohydrate and fat yield 4, 4 and 9 calories respectively per gram (Iwe and Onuh, 1992) and this amounted to a total of 1813.7Kcal on a daily basis.

The result indicated that the most abundant components of the cooked meals were carbohydrate, fat and less protein (based on an average protein intake of 30g/day served daily). Appreciable amount was also recorded for caloric value and energy.

Conclusion: It could be observed in this study that meals served from the dietetic kitchen provides appreciable nutrients, calories and adequate energy to the renal patients within the hospital. Also, a low- protein diet which is about 30g/day is achieved in the meals analyzed, thereby ensuring that the kidney is not overloaded in renal patients.

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KIDNEY DISEASE PREVENTION
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1.   **NAN2020/PVT/01**
       FAMILY HISTORY OF CHRONIC KIDNEY DISEASE AMONG HAEMODIALYSIS PATIENTS AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN.

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Introduction: Chronic Kidney disease (CKD) is a global public health challenge and family history of CKD is an important risk factor for subsequent development of nephropathy. This study aimed to analyze how patients undergoing haemodialysis therapy reported relatives with CKD and to evaluate which risk factor was associated with the family history.

Methods: A self-structured questionnaire was used to elicit information about renal disease etiology and the health status of 1st, 2nd and 3rd degree relatives between June 2017 and August 2017. Data was collected from 100 respondents undergoing haemodialysis at University college Hospital, Ibadan.

Results: A positive family history of CKD was reported by 18% of the respondents and 33.3% of these relations had haemodialysis done while 5.6% had transplant. Reported etiologies were hypertension-40%; diabetes mellitus-23%; Obstructive neuropathy-10%, chronic glomerular disease-20% while polycystic kidney disease (PKD) account for 6%. First degree relation had the highest percentage of diseases causing renal failure compared to 2nd and 3rd degree relations.
Conclusion: There was high prevalence of diseases causing CKD among the first degree relations; hence there is need for a comprehensive screening of CKD forfirst degree relations of patients living with CKD to reduce the prevalence of CKD among the relatives of haemodialysis patients.

2.   **NAN2020/PVT/02**
       SCREENING FOR CHRONIC KIDNEY DISEASE AND ITS RISK FACTORS IN KASARAWA, NORTH-WESTERN NIGERIA: A WORLD KIDNEY DAY REPORT 2019.

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Introduction: The prevalence of CKD is rising in epidemic proportions. Risk factors for CKD such as hypertension, diabetes and obesity remain prevalent globally especially in developing countries. Screening for CKD and its' risk factors is recommended in high risk populations in order to curb this rising epidemic. This study aims to determine the prevalence and risk factors of CKD in a rural community in Sokoto state, North-Western Nigeria.

Methods: This was a cross-sectional study carried out during the world kidney day (WKD) health awareness campaign 2019 undertaken in Kasarawa community. A total of 216 adults were interviewed and the following measurements were done: body mass index, waist circumference, blood pressure, blood glucose, dipstick urinalysis, serum creatinine and estimation of glomerular filtration rate using CKD-EPI.

Results: The mean age was 35.8 ± 17.3 years and 71.3% of the population were young. Male to female ratio was 1:1.3. Obesity was found in 11.1% and 31% of the population using BMI and waist circumference respectively. Although 28% of the participants were known hypertensives, 23.4% of the participants were found to have elevated blood pressure and 2.3% were found to have elevated blood sugar. The prevalence of proteinuria was 8.8% while 8.3% of subjects had CKD (GFR<60ml/min).

Conclusion: Community screening programmes for the risk factors of CKD are realistic and should be encouraged in developing countries as a preventive measure to this rising menace.

3.   **NAN2020/PVT/03**
       HYPONATREMIA AMONG CHRONIC KIDNEY DISEASE PATIENTS AT THE UNIVERSITY OF NIGERIA TEACHING HOSPITAL ENUGU

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Introduction: Hyponatremia, a serum sodium <135mmol/l is the most common electrolyte disorder, associated with significant morbidity, mortalityand can mimic uremia in CKD patients. We aim to determine hyponatremia prevalence among adult CKD patients at University of Nigeria Teaching Hospital (UNTH), Enugu.

Methods: This retrospective study was done using medical records of adult CKD patients seen in UNTH between 1st December 2017 and 1st December 2019. Diagnosis of hyponatremia and symptomatic hyponatremia were based on serum sodium<135mol/l (using ion-selective electrode analyzer) and resolution of signs and symptoms with only saline therapy. Patients who had acute kidney injury, acute stroke, heart or liver failure or any other acute illness when serum sodium was analyzed were excluded.

Results: There were 246 CKD patients,132 (53.7) males and 114 females (46.3%). Mean age was 45.56 ± 16.14 years (males=45.32 ± 17.04, females=45.83 ± 15.11, t=-245, p=0.806). Hyponatremia occurred in 75/246 (30.5%) patients. Of the 24/75(32%) symptomatic patients, 8 had vomiting,23 fatigue, 8 had altered sensorium while one had seizure.

There was no significant association between hyponatremia and sex ($\div^2$=2.556, p=0.110), age ($\div^2$=4.662, p=0.588) and diuretic use ($\div^2$=0.550, p=0.458). Progressive increased hyponatremia prevalence from 15% to 45.9% was observed from CKD stages 1to5 (f=15.429, p=0.009). Sickle cell disease patients had highest hyponatremia prevalence (50% {f=8.393, p=0.477}). Symptomatic hyponatremia was not significantly associated with sex($\div^2$=0.234,p=0.629), diuretic use($\div^2$=0.036,p=0.850) and CKD stage($\div^2$=7.609,p=0.179) but progressively increased with hyponatremia severity from 3.1% to 63.6% in mild and profound hyponatremia respectively(f=86.349,p=<0.0001).Patientse"50 years(f=13.558,p=0.020)and diabetic nephropathy patients(f=5.496,p=0.728) had higher symptomatic hyponatremia prevalence.

Conclusion: Hyponatremia is common among CKD patients and can mimic uremia especially in the elderly. Further research is needed to elucidate ways of differentiating uremic from hyponatremic symptoms.

4.   **NAN2020/PVT/04**
       ASSESSMENT OF ALBUMINURIA AND ASSOCIATED RISK FACTORS AMONG FREQUENT USERS OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS)

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Introduction: NSAIDs are used in treating pain and could cause kidney damage. Albuminuria is a risk factor for kidney disease, however, its assessment in NSAIDs users has not been carried out in our

environment. This study assessed albuminuria among NSAIDs users as surrogate measure for kidney dysfunction (KD).

Method: A hundred cases and 100 age and sex-matched healthy controls who consented were recruited. Urinalysis included dip strip, microscopy and albumin creatinine ratio (ACR). Mean and proportion were compared using Student t-test and Chi-square respectively. Regression analysis showed variables associated with KD.

Results: Mean age of cases and controls were 46.5yrs $\pm$ 14.2 and 46.0yrs $\pm$ 14.5 respectively. Mean age of cases with KD (ACR >30mg/g) was 64.4yrs $\pm$ 16.3, statistically higher than those without KD (41.1yrs $\pm$ 14.5), P=0.01. More females compared to males had KD (P=0.03). Eighteen cases had KD (ACR >30mg/g). The predictors of KD were increasing age, prolonged use and herbal medicines.

Conclusion. Albuminuria is common in NSAIDs users, risk factors include increasing age, herbal medicine, and prolonged use. Assessing proteinuria prior to and during NSAIDs use is important in monitoring kidney function.

5.   NAN2020/PVT/05
SURVIVAL OF A CHILD WITH RARE BUT LETHAL HEPATOPATHY: A CASE REPORT

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Introduction: Sickle cell disease is characterized by protean manifestation. Hepatic involvement (sickle cell hepathopathy) usually arise from hepatic sinusoidal sickling and complications from recurrent blood transfusion such as hemosiderosis and hepatitis. Intra hepatic cholestasis remains a rare but lethal extreme variant of sickle cell hepatopathy.

Method: Case report

Result: We present a 5yr old known sickle cell disease patient, who presented with a mixture of vaso-occlusive and hyperhaemolytic crises with associated severe anaemia. Following admission and blood transfusion, child rapidly deteriorated clinically and lapsed into unconsciousness. Renal and liver function deteriorated rapidly with serum Na 132mmol/l, K – 3.3mmol/l, Cl-97mmol/l, HCO3- 16mmol/l, Urea- 271mmol/l Cr- 4.9mg/dl. Total serum bilirubin 37.20mg/dl, conjugated 25.65mg/dl, total protein 4.7g/dl, albumin 2.5g/dl, ALP 393U/l, AST- 1262U/l, ALT 800U/l. Child had a further fresh whole blood transfusion on account of bleeding diasthesis and thrombocytopenia. Had athrotomy for septic arthritis, a total of 18 sessions of peritoneal dialysis and was subsequently discharged home.

Conclusion: Sickle cell intra hepatic cholestasis remains the most severe form of sickle cell hepatopathy. As at 2018 only 17 cases have been reported with high mortality. The condition presents rapidly with striking jaundice, bleeding diathesis, renal impairment and worsening encephalopathy. Urgent and vigorous exchange transfusions have been advocated to be lifesaving. We believe that our patient's survival was due to the peritoneal dialysis offered and other supportive treatment given.

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KIDNEY TRANSPLANTATION

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1.   **NAN2020/KT/01**
      ASSESSMENT OF POST KIDNEY TRANSPLANT COMPLICATIONS AT FEDERAL MEDICAL CENTRE UMUAHIA, SOUTH-EAST NIGERIA

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Introduction: Kidney transplantation is the definitive treatment of choice for most patients with end-stage renal disease. Marked improvements in early graft survival and long term graft function have made it a cost effective alternative to dialysis. However, kidney transplantation is not without complications. The objective of the study is to assess the short and long term complications among recipients of kidney transplantation seen over a four-year period at Federal Medical Centre Umuahia Abia State

Methodology: A retrospective review of case notes, medical records and transplant registers of patients who underwent kidney transplantation at FMC Umuahia and outside the hospital but followed up in FMC Umuahia. Socio-demographic characteristics, aetiology of renal failure, time on dialysis, donor type and immunologic typing, immunosuppressive induction and continuation medication and complications developed were collated

Results: Data was available for 21 patients with male: female ratio of 4:1. The aetiology of end-stage renal disease was hypertension in 43% and Diabetes in 25%. Duration of time spent on dialysis prior to kidney transplantation was 2-96months. All recipients received kidney from living donors with variable HLA mismatches. Induction therapy was non-depleting antibody Basiliximab in 35%, depleting anti-body thymoglobulin in 65%. Majority (62%) were on tacrolimus and myfortic-based immunosuppressive medications. Post-transplant complications were seen in 67% of patients. Some short term complication recorded included urinary tract infection (57%), urinary catheter-related discomfort (14%), delayed graft function (5%) and significant fluid collection behind the kidney (0.4%). Some long term complications included sepsis (43%), post-transplant erythrocytosis (14.2%), CMV infection (5%) and graft dysfunction (9.5%).

Conclusion: The recipients were young with varying degrees of immunologic mismatches with donors. Post-transplant complications were prevalent with infection as the leading cause

2.   **NAN2020/KT/02**
      FAILURE TO LAUNCH; A MULTICENTRE STUDY OF WILLING BUT UNABLE LIVE DONORS IN SOUTH-EAST NIGERIA

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Introduction: Kidney transplantation is developing in Nigeria. Availability of suitable, willing, living donors is one of the major factors leading to its success. Some willing live kidney donors eventually get excluded during clinical evaluation.

Objectives: The objectives of this study were to determine the socio-demographic characteristics of potential living kidney donors, donor motivation, incidental findings on clinical evaluation and some identified factors that precluded eventual kidney donation

Methods: A retrospective review of clinical data of potential living donors who presented for pre-donation evaluation over a period of 20 months (August 2017-March 2019) in three kidney care and dialysis centres in South-east Nigeria.

Results: There were 120 males and 8 females with M:F ratio of 15:2. Mean age was 26±6.5 years. Majority were unskilled workers (59%) and unrelated to prospective recipients (68.7%). Among those related to the patients (31.3%), there were more second degree relatives (18.8%) than first degree relatives (12.5%). Ninety-six (85%) of the prospective recipients received blood transfusion during haemodialysis. The main motivations behind donation were fear of losing a loved one to death (81.3%). Some incidental findings identified on clinical evaluation included proteinuria (15.6%), hypertension (12.4%), bradycardia (6.2%), abnormal glucose tolerance (3.1%) and cardiomegaly (3.1%). Some exclusion criteria findings included immunological incompatibility (31.3%), proteinuria (15.6%), hypertension (12.4%) and financial motivation (6.2%). Presence of donor specific antibody (58%), positive lymphocyte cross match (19%) and more than 3/6 HLA mismatches were the incompatible immunological factors.

Conclusion: Immunological incompatibility was the leading cause of failure to donate a kidney with presence of donor specific antibody been the predominant factor. Pre-sensitization with multiple blood transfusions may be the cause and measures to avoid blood transfusion in the pre-transplant period will be invaluable.

HAEMODIALYSIS

1.   **NAN2020/HD/01**
     HAEMODIALYSIS IN A FINANCIALLY CONSTRAINED ECONOMY: LAGOS AS A CASE STUDY

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Introduction: Kidney diseases is one of the non communicable diseases with steady rise in incidence,it can lead to renal failure.Renal failure is the third leading cause of death in the world. The financial and economic implication of managing it is a burden on the individual,family and nation at large.

Methods: The research method for this study is cross sectional descriptive design achieved through telephone interview of nurses in charge of haemodialysis centres both government and private owned.

Result: Lagos with a population of over 21 million have about 35 haemodialysis centres - both registered and unregistered - scattered across it.Telephone calls were put through to the head nurse/nursing staffs of the centres to elicit information about the cost of haemodialysis in their centres.The average cost of 1st session of haemodialysis is N40,000,N30,000 for subsequent session.An average Nigerian that lives below $1 per day and per capita income of 30k in a country with struggling economy.The paucity of fund made it difficult for patient with renal failure to be able to afford 3 sessions a week of haemodialysis,anaemia treatment and medications for other comorbid diseases.

Conclusion: Haemodialysis is the most available treatment modality in the third world country.For people with renal failure to enjoy some degree of well being ,haemodialysis needs to be included in National Health Insurance Scheme.

2.   **NAN2020/HD/02**
      FIRST YEAR HEMODIALYSIS AUDIT AT YUSUF DANTSOHO MEMORIAL HOSPITAL RENAL CENTER KADUNA

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Introduction: The management of chronic kidney disease (CKD) in Nigeria has remained challenging. The threats range from high and rising burden of the disease to poor funding. Hemodialysis (HD) is the most developed and commonest mode of renal replacement therapy.

Methods: It was a retrospective descriptive study. The records of patients dialyzed between February to October 2019 were analyzed. Demographic information, cause of CKD, dialysis access, frequency, duration, complications and outcome were examined. Data analyses were done using SPSS version 25.

Results: Eighty CKD patients dialyzed over the period under review. The age range was 16 to 85 years (mean 49.3 ± 15.5), 45 males, 35 females. The commonest cause of CKD was CGN (33.8%), followed by Hypertension (31.3%), Diabetes (20%), Obstructive uropathy (8.8%), Sickle cell nephropathy (3.8%), then 2.5% unknown. Only 1 patient used AV fistula as HD access, 11 utilized permanent catheters, the remaining used temporary catheter. Few maintained 3 sessions per week (6.3%). Mean session(s) per week was 1.4 ± 0.6. The longest patient on dialysis was 40 weeks (mean 8.6 ± 9.5). Mortality so far 61.3%

Conclusion: CGN and Hypertension were the commonest causes of ESRD in our center. There was a male predominance poor utilization of AV fistula suboptimal sessions of HD and high mortality.

3.   **NAN2020/HD/03**
      HEMODIALYSIS AUDIT AT AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA

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Introduction: The prevalence of chronic kidney disease (CKD) continues to rise. In Nigeria, Hemodialysis (HD) is the most developed and commonest mode of renal replacement therapy. Peritoneal dialysis and renal transplant are less utilized. Conservative approach remains the last hope for many patients.

Methods: It was a retrospective descriptive study. The records of patients dialyzed between 2005 to October 2019 were analyzed. Demographic information, cause of CKD, dialysis frequency and duration were obtained. Records of Access, complications and patient outcome were incomplete. Data were analyzed using SPSS version 25

Results: A total of 422 patients had HD over the period under review. There were 257 males and 165 females. The age range was 2 to 90 years (mean 42.6 ± 18.4). Fifty-two patients had AKI while 370 had CKD. The commonest known cause of AKI was sepsis (30.7%). Other causes were AGN (11.5%), Obstetric Haemorrhage 3.8% and in 48.1%the cause was unknown. For CKD, Hypertension was the commonest known cause (16.2%) followed by CGN (10.3%), Obstructive uropathy (9.5%), Diabetes (1.1%) and 61.9%

had no causes recorded. Only 7.0% were able to dialyze 3 times a week while 33.8% had twice weekly sessions. The longest time spent by a patient on dialysis was 10 months while the mean duration was 6.6 ± 5.5 week. Only 17.0% maintained HD for more than 3 months while 7.6% dialyzed for longer than 6 months.

Conclusion: Kidney disease was commoner in males in reproductive age. Hypertension was the commonest cause of ESRD. Less than half of patients had optimal HD frequency.

4.   **NAN2020/HD/04**
         TREATMENT OF HEPATITIS C VIRUS (HCV) INFECTION IN HEMODIALYSIS PATIENTS: THE USE OF DIRECT-ACTING ANTI-VIRAL (DAA) DRUGS

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Introduction: Hepatitis C Virus (HCV) infection is common in the hemodialysis population and is associated with adverse outcomes. Its prevalence varies in different countries and from one unit to another and could be as low as 4% in industrialized countries and up to 40% in some developed countries. There are no vaccines available for the prevention of HCV and previous treatments were lengthy with variable treatment response and significant toxicity. The use of direct-acting anti-viral (DAA) medications has revolutionized the treatment of HCV infection and cure rates of >95% have been seen with all genotypes.

Methods: 4 patients (3 females, 1 male, representing about 10%) of the dialysis population In TGH with positive HCV antibody test and high HCV RNA viral loads (>1,000,000 IU/ml) were treated with Harvoni[R] (ledipasvir 90mg/ Sofusbuvir 400mg) once daily for a period of 12 weeks. Two patients had genotype 1 while the other 2 had genotype 4.

Results: At the end of the first month of treatment all 4 patients demonstrated non-detectable HCV RNA levels on quantitative testing. This was sustained through-out the treatment period and at weeks 12, 24 and 48 after completing therapy.

Conclusion: Direct acting antivirals achieve cure of HCV infection in hemodialysis patients.

5.   **NAN2020/HD/05**
         SOCIODEMOGRAPHIC FACTORS, INCOME LEVEL, LATE PRESENTATION AND DIALYSIS ADEQUACY AMONG PATIENTS WITH END STAGE KIDNEY DISEASE AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN.

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Introduction: Maintenance haemodialysis is a lifesaving modality for treatment of End Stage Kidney Disease (ESRKD). Survival on haemodialysis (HD) is determined by several factors among which are vascular access, access to funds for HD, cardiovascular morbidity and Malnutrition. These factors direct and direct

relationship with adequacy of HD. Low income at initiation of chronic (HD) has been reported to be an independent indicator of lower survival in patients commenced on maintenance HD. This examined socioeconomic factors associated with dialysis adequacy among patients on maintenance HD.

Methods: Participants enrolled into the study were interviewed using a structured pretested questionnaire. Information obtained were sociodemographic data, income, health insurance, mode of referral and promptness of presentation in the hospital. Patient's symptoms were documented at every session using the dialysis symptom index. Patients were studied for a month while having dialysis on a specified prescription. At the end of each dialysis, Urea Reduction Rate (URR) and Kt/V were calculated for each patient. The data obtained from this study was analyzed using SPSS version 20.

Results: A total of 61 patients with ESKD participated in the study. The mean age was 42.9(±11.5) years while majority were males (63.9%). More than one-third (38.8%) commenced HD within five months of being diagnosed with chronic kidney disease (CKD). The mean URR and Kt/V were 54.2(±18.3) and 0.9(±0.5) respectively. The proportion of participants with inadequate dialysis were 67.2% using URRÂ 65% and 75.4% with Kt/V < 1.2. There is a positive correlation between URR and Kt/V (r=0.87, P<0.001) while we observed no association between Kt/V and clinical symptoms. Only income was associated with adequacy of dialysis ($\div^2 = 15.4$, P < 0.01).

Conclusion: Majority of the patients had dialysis inadequacy and factors associated with poor dialysis adequacy were male gender, younger age group and low income level.

6. **NAN2020/HD/06**
   PAEDIATRIC DIALYSIS IN IBADAN NIGERIA- A FOUR YEAR REVIEW

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Introduction: Data on paediatric dialysis in low resource settings is not widely available. We therefore reviewed the outcome of paediatric dialysis in our centre.

Method: A review of patients managed by the paediatric nephrology unit of the University College Hospital Ibadan and underwent dialysis from the 1st of September 2015-31st August 2019 (4 years).

Results: 175 patients, aged 7 weeks – 18 years [median 7. 9 (IQR 3-7) years]. The males were 106(60.6%), and females 69 (39.4%). Haemodialysis (HD) alone was carried out in 125 patients (71.4%) Peritoneal dialysis (PD) alone was carried out in 47 patients (26.9%) while 3 patients (1.7%) underwent both HD and PD. Patients who received PD only were aged median 1year (IQR 0.46-3.0) years, while patients who had HD were aged median 9 years (IQR (6-13 years) p=0.00. Acute kidney injury (AKI) occurred in 140 patients (80%) while end stage renal disease (ESRD) occurred in 35 patients (20%). All the patients who had either PD only or a combination of HD and PD had AKI, the 35 patients in ESRD all had HD only, while 90 patients with AKI had HD only. The overall in-hospital mortality was 32 (18.3%) and among the patients with AKI, 26 (18.6%) while among the patients with ESRD in-hospital mortality was 6 (17.1%).

Conclusion: Paediatric dialysis remains feasible in our country.

7.   NAN2020/HD/07
        THE IMPACT OF DIALYSIS MODALITY ON ALL-CAUSE MORTALITY: A 3 YEAR PROSPECTIVE COHORT STUDY.

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Introduction: Globally, data relating to the relationship between dialysis modality and mortality remains debatable. In Africa, despite the likely cost savings associated with peritoneal dialysis (PD) it is highly underutilized and the survival differences between patients on peritoneal dialysis versus haemodialysis (HD) is largely unknown. Thus, the objective of this study was to compare risk for death between end stage kidney disease (ESKD) patients on haemodialysis and peritoneal dialysis in South African patients on maintenance dialysis.

Methods: This was a three-year prospective study conducted between 1st October 2014 and 31st December 2017. The Cox proportional hazards model was used to compare patient survival. Events other than the primary outcome such as lost to follow-up, kidney transplantation, being alive at end of the study and change of dialysis modality were censored.

Results: The study comprised 165 patients (62 on PD and 103 on HD). The mean age of the study participants was 47 ± 14 years, and patients on PD were significantly younger than patients on HD 43 ± 12 versus 49 ± 15 years; p=0.005, with significantly fewer white patients on PD. During a three year follow up period, there were 46 deaths (1.03 per 100 person-years), of which 32 deaths (1.17 per 100 person-years) occurred in the HD arm and 14 deaths (0.81 per 100 person-years) in the PD arm. When compared to HD, the adjusted hazard ratio (HR) for PD was 0.48; 95% CI, 0.11-2.09; p=0.90. The final model adjusted for age, diabetes mellitus, systolic hypertension, anaemia, albumin, race, biochemical markers of CKD-MBD (calcium, phosphate, intact parathyroid hormone, FGF23, and 25-OHD vitamin D).

Conclusion: The risk for death in ESKD patients on dialysis is not dependent on dialysis modality. As mortality between HD and PD is comparable, in addition to the likely cost and time saving that may be associated with PD, we recommend the increase use of PD in Africa.

HAEMODIALYSIS COMPLICATIONS

1.   NAN2020/HDC/01
CHALLENGES OF HAEMODIALYSIS: A SINGLE CENTRE EXPERIENCE IN SOUTH WEST NIGERIA

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Introduction: Haemodialysis is the commonest method of Renal Replacement Therapy in Nigeria. Despite an advancement in the technicality and better understanding of haemodialysis, a number of complications are known to be associated with this procedure.We aimed to highlight our experiences and share some of the uncommon complications encountered during haemodialysis and also to present the outcome of our patients.

Methods: A retrospective review of 101 patients during the last two years was done. Data extracted include: sociodemographic characteristic, aetiology of kidney disease, type of vascular access, intradialytic complication and outcome of treatment.

Results: The total number of dialysis session during the period was 823. Males constituted a higher proportion (64.4%) and were found to be older than female patients 49.8 vs 42.8 years (P=0.001). Majority (89.1%) had chronic kidney disease while chronic glomerulonephritis was the main cause of CKD as seen in about 45% of the patient. Due to the cost implication, only 2(1.98%) were able to undergo 3 sessions of dialysis per week for up to 1 month.

Vascular access was femoral (66.3%), internal jugular vein (25.7%), while only 2% used Artero-venous-fistula and one patient had femoral vessel pseudo-aneurysm from frequent cannulation.The commonest complication was hypotension which was present in 15.8%. Twenty-eight deaths were recorded, 44(43%) were either lost to follow up or absconded while 5% were transplanted at a referral centre.

Conclusion: Challenges of renal replacement therapy is overwhelming in our country due to poor human and financial resources. Early diagnosis and adequate government support are advocated.

2.   NAN2020/HDC/02
INTRA-DIALYSIS RELATED COMPLICATIONS: UNIVERSITY COLLEGE HOSPITAL IBADAN EXPERIENCE

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Introduction: Haemodialysis (HD) remains one of the major treatment modalities for patients with ureamic syndrome, whether due to acute kidney injury (AKI) or chronic kidney disease (CKD). Despite improvement in the safety of this procedure over the years, it is not devoid of risks and complications which could

sometimes be potentially fatal. In this study, we report the pattern of intradialytic complications noticed at University College Hospital (UCH), Ibadan in the past 11 months (January –November, 2019)

Methods: We reviewed the dialysis records of consecutive patients with ureamic syndrome (AKI and CKD) who received HD treatment in the dialysis centre of UCH Ibadan between January and November 2019. Data comprised patients' demographics, aetiology of kidney disease, HD vascular access, duration of the procedure, complications encountered during the HD treatment sessions, treatments given and the outcomes. Data was analyzed using SPSS version 21.

Results: A total number 253 patients had 1,215 sessions of dialysis with complications occurring in 310 (25.1%) of the HD sessions. The median age was---- 45(18.5) years while 55.7% were males. Patients with CKD accounted for 77% while 23% had AKI. The most frequently encountered complications were hypertension (8.8%) and hypotension (7.5%). Patients with intardialytic hypertension had significantly higher pre-dialysis systolic blood pressure values (mean 144.5 ± 17.5 mmHg vs 127.6 ± 22.1 mmHg) and pre-dialysis diastolic (94.2 ± 17.0 mmHg vs 79.2 ± 14.5 mmHg) compared with those who did not, $p < 0.001$. All the complications were managed with good recovery but 4 (1.6%) mortalities were recorded.

Conclusion: Intra-dialytic hypertension and hypotension were the most frequently encountered complications among patients with ureamic syndrome. Intra-dialytic mortality is low among patients undergoing HD in our centre.

3.　　　NAN2020/HDC/03
PREVALENCE OF ANAEMIA AMONG VIRAL INFECTED PATIENTS UNDERGOING HAEMODIALYSIS IN AMINU KANO TEACHING HOSPITAL, KANO

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Introduction: Anaemia is common among CKD patients due to accumulation of metabolic waste and lack of erythropoietin production. It may be more common with co-morbid conditions such as viral hepatitis and HIV infections as observed in Aminu Kano Teaching Hospital (AKTH), Kano, Nigeria. The aim of the research was to determine the prevalence of anaemia among viral infected patients undergoing haemodialysis in Aminu Kano Teaching Hospital, Kano.

Method: Retrospective descriptive design was used and purposive sampling method was employed in data collection from patient registers and case folders. The sample size was 150 viral infected patients.

Result: the age range was 15-66 and beyond but the age range with highest frequency was age of 36-45 (28%). Upon analysis using frequency and percentage, the findings showed that prevalence of anaemia among hepatitis C patients has 22.7% (n=34), hepatitis B patients account for 29.3% (n=44), with the majority cases seen among HIV patients amounting to 48% (n=72). There were more male patients 108 (72%) than female 42 (28%).

Conclusion: Higher frequency of anaemia among HIV infected patients may be due to the nature of the disease process and its immunosuppressive nature. It is recommended that creating awareness, ensuring regular medical check and improving the knowledge level of both health practitioners and patients on dietary regimen and drugs to manage the infection and those to improve red blood cells can reduce the prevalence of anaemia among viral infected patients

4.   **NAN2020/HDC/04**
      ACUTE INTRADIALYSIS COMPLICATIONS AT A DIALYSIS CENTRE IN UMUAHIA SOUTH-EAST NIGERIA

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Introduction: Hemodialysis (HD) is the commonest method of renal replacement therapy for Nigerian patients with end-stage renal disease (ESRD). Despite the technological advances and better understanding of physiology associated with hemodialysis, a number of complications are known to be associated with it. We aim to study the frequency and types of intradialytic complications in patients undergoing hemodialysis for renal failure a new Dialysis Unit in Umuahia South-East Nigeria.

Methodology: A retrospective study conducted at the Dialysis Unit of Beatitudes Mediplex and Kidney Care Centre Umuahia. Records of all patients who had dialysis over a two-year period were reviewed. The socio-demographic information, aetiology of renal failure, number of HD sessions, intradialytic blood pressure readings and recorded complications were collated. Data was analyzed using SPSS version 21.0

Results: Data for 180 patients with 2,660 episodes of HD was analyzed. Mean age of the patients was 36.5 ± 14.6 years. Patients with acute kidney injury comprised 31 (17%) while ESRD comprised 149 (83%). Commonest cause of ESRD was chronic glomerulonephritis and found in 69 (38%). Acute Intra-dialytic complications were seen in 878 (33.0%) of dialysis sessions. Hypotension was the commonest complication and found in 450 (51%) sessions. This was followed by hypertension in 312 (36%) sessions, vascular access related complications in 101 (12%), vomiting in 91 (10%), headache in 30 (3.4%). Backache, fever, cramps were each found in <5% of sessions.

Conclusion: Acute complications of haemodialysis are not uncommon in the centre. Intradialytic hypotension and hypertension were the commonest recorded. Clinical vigilance and closer monitoring of patients undergoing haemodialysis is necessary to detect these complications.

5.   **NAN2020/HDC/05**
      EPIDEMIOLOGY OF KIDNEY DISEASE AS SEEN IN HAEMODIALYSIS UNIT OF AMINU KANO TEACHING HOSPITAL KANO FROM JANUARY 2014 TO DECEMBER 2018

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Introduction; Kidney disease especially Chronic Kidney Disease is one of the worldwide public health problem and burden. Kidney disease can be prevented but the prevalence is on the increase with high morbidity and mortality. There has been regional difference in the demography of patients with Chronic Kidney Disease. The aim of this study is to describe the epidemiological pattern of kidney disease among patients undergoing haemodialysis at Aminu Kano teaching hospital.

Method; A retrospective study was carried out covering the year 2014 to 2018. Patients' haemodialysis records were reviewed and information extracted were analysis using SPSS 24.

Results; revealed that 1557 patients undergo haemodialysis during this period. Mean age of patients was 42.3 ± 14.4 years, males 810(52%), female 747(48) and 5.1% are below the age of 18years. The major

causes of kidney disease are: hypertension 400(25.7%), diabetes mellitus 210(13.5%), chronic glomerulonephritis 131(8.5%0 and HIV Associated nephropathy 119(7.6%). A high number of these patients also have hepatitis B surface antigen in their blood 191(12.3%). Mortality within the study period was 447(28.7%).

Conclusion: HIV Associated Nephropathy and Hepatitis B virus infection are emerging concerns among haemodialysis patients. It is recommended that education should be channeled toward prevention of hepatitis B infection and HIV associated nephropathy along with awareness campaign of kidney disease.

6.   NAN2020/HDC/06
DETERMINANTS OF BLOOD PRESSURE VARIATIONS IN DIALYSIS

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Introduction: Hemodialysis is associated with many shortcomings. Variation in blood pressure during dialysis has been identified as a major contributor to these shortcomings. Measures are therefore needed to improve on this. We aim to assess determinants of intradialysis blood pressure variations.

Methods: 418 sessions for consented patients with ESKD on maintenance HD were studied. Data was collected from history and examination. Serum electrolytes and hematocrit were checked. Statistical analysis was with SPSS 22, with Chi square to compare proportions and T-test to compare means. Regression analysis showed variables that independently predicted blood pressure changes. $P < 0.05$ was considered statistically significant.

Results: The mean age of respondents was 48.3 ± 2.1. More subjects had CGN 35 (43.5) than hypertension 28 (35). Access sites were femoral 210 (50.2), jugular 202 (48.4). Intradialysis hypertension (IDHT) was commoner than intradialysis hypotension (IDH). IDH was common in females, diabetics, elderly and IDHT in males and hypertensives. Mean Kt/V in sessions with IDH and IDHT were 0.6 and 0.9 respectively.

Conclusion: Risk factors for IDHT were male, frequent erythropoietin use while for IDH were female and advancing age. It is important that pre dialysis work up be carried out to lessen the burden of these variations.

RENAL PATHOLOGY

1.   **NAN2020/RPT/01**
SYSTEMIC AMYLOIDOSIS: A BIG MASQUERADER OF CLINICAL SYMPTOMS WITH CATASTROPHIC CONSEQUENCES

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Introduction: Amyloidosis is a rare clinical condition that affects several organs of the body. A search of literature revealed only 2 case reports in Nigeria over the last 20 years and an autopsy report of 8 cases (0.2%) in 4235 autopsies in UCH Ibadan between 1970 and 1979. We present this unique case of multisystemic amyloidosis that presented with non-specific symptoms and died of complications thereof.

Method: A case report of a 52-year-old lady who presented with non-specific symptoms including generalized weakness, loss of appetite and left leg pain of about a week duration. She was found to be normotensive with regular pulse on examination and urinalysis revealed 2+ of proteinuria. She later developed progressive body swelling which included the face as well as recurrent diarrhea and was therefore screened and found to have nephrotic syndrome. She consequently had a renal biopsy which revealed renal amyloidosis. She also had bone marrow trephine biopsy and flow cytometry of the bone marrow aspirate for cytogenetic analysis. She later developed, cardiomegaly with arrhythmias which was confirmed on echocardiography. She was treated with thalidomide, bortezonib, methylprednisolone, ranitidine and allopurinol without significant improvement. She had derangement in renal function but was not dialysed because she was not symptomatic of uraemia. She later died of cardiovascular decompensation on commencement of chemotherapy.

Conclusion: Amyloidosis is a rare disease that require a high index of suspicion. She may have responded if she had been diagnosed early, hence early diagnosis is the key to successful management.

2.   **NAN2020/RPT/02**
STEROID-SENSITIVE NEPHROTIC SYNDROME IN CHILDREN IN UMUAHIA: TIME TO REMISSION AND PATTERN OF RELAPSES.

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Introduction: Steroid sensitive nephrotic syndrome (SSNS) follows a relapsing and remitting course in the majority, with 90% relapsing at least once. This study was done to describe the time to initial remission as well as the pattern of relapses among children with SSNS in Umuahia, Southeastern Nigeria.

Methods: Records of children with idiopathic nephrotic syndrome from July 2013 to June 2018 were reviewed. Time to remission as well as relapses in their first year were determined.

Results: A total of 24 children aged 2 to 14 years with idiopathic NS. Mean age was 6.67 ± 3.51 years. Male to female ratio was 3:1. Fifteen (62.5%) responded to steroid. Median time to remission was 14 days. Of the 15 steroid responsive patients, 11(73.3%) achieved remission within 21 days (3 weeks). Remission occurred after 28 days (4 weeks) in 4 (26.7%) of the patients. Six patients had at least one episode of relapse giving a relapse rate of 40.0%. Of these six, four (66.7%) were infrequent relapsers while 2 (33.3%) were frequent relapsers. One patient was steroid dependent. Relapse rate was not different across age groups or gender. Acute respiratory infection was the most frequent trigger of relapse.

Conclusion: More than two-thirds of children with NS in our centre experience early steroid response while less than one-third respond after 4 weeks of therapy. Less than half of the children experience a relapse in the first year of follow up.

3.   **NAN2020/RPT/03**
        CLINICOPATHOLOGICAL SPECTRUM OF ADULT GLOMERULAR DISEASE: A REPORT OF 56 RENAL BIOPSIES FROM A SINGLE CENTRE.

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Introduction: Glomerulonephritis (GN) is one of the leading causes of CKD and ESRD in Nigeria. The clinical presentation and pattern of glomerular injury in adult glomerulonephritis vary across the globe and it changes overtime. Renal biopsy remains a gold standard for the diagnosis and treatment of GN in adult patients and also assist in prognostication. This review highlights the histopathological patterns and its clinical correlates in adult glomerulonephritis at the Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, South West, Nigeria.

Methods: We retrospectively analyzed 56 adults who underwent renal biopsy for glomerular disease at the Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, Nigeria. All biopsies were performed under real time ultrasound guidance. At least 2 samples of biopsy specimen were taken; one was used for light microscope (LM) and the other for IF study. For LM, biopsy sample was fixed in 10% formalin, and for IF, it was kept in normal saline. Minimal change disease (MCD) was diagnosed on the basis of LM and IF only. Electron microscopy was done only done if indicated. Clinical syndromes were classified according to standard definitions. The results of biopsy findings were considered along with other clinical and laboratory data collected at the time of biopsy.

Results: The mean age at presentation was 26.6 ($\pm$ 10.62) years and Male: Female ratio was 2:1 (37 males: 19 females). The common clinical presentation were nephrotic syndrome (n=26, 46.4%), sub nephrotic range proteinuria / asymptomatic urinary abnormalities (n=18, 32.2%) and Nephritic Nephrotic presentation (n = 7, 12.5%). Eleven (19.6%) of the 56 patients presented with Acute Kidney Injury.

The most common histologic diagnosis was FSGS, seen in 28 patients (50%), followed by membranous GN in 10 patients (17.9%), MCD in 6 cases (10.7%), MPGN in 3 cases (5.4%), Lupus Nephritis in 3 patients (5.4%), acute diffuse proliferative GN in 2 cases (3.6%) and Diabetic nephropathy (1.8%). Three (5.4%) patients had a failed biopsy.

FSGS was the most common histological pattern amongst those with nephrotic presentation (n = 15, 57.7%), followed by membranous GN (n= 7, 26.9%).

Conclusion: In this study, nephrotic syndrome was found to be the most common presentation of adult glomerular disease and FSGS was the most common histology found. This would impact significantly on the treatment modalities and outcome.

4.   NAN2020/RPT/04
THE CLINICAL CHARACTERISTICS OF ADULT ONSET MINIMAL CHANGE DISEASE IN A TERTIARY HOSPITAL IN NORTHWEST NIGERIA

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Introduction: Minimal Change Disease (MCD) accounts for 10 to 15% of cases of primary nephrotic syndrome in adults and only a handful of series have examined this disease in adults.

Methods: This was a prospective study of all biopsy confirmed cases of MCD seen in UDUTH, Sokoto between 2015 and 2019. The participants' demographic and clinical information were extracted from their case notes and subsequently analysed with SPSS 25.

Results: In total, twenty patients were recruited with an average age of 25.1 ± 8.3 years and a male to female ratio of 1.5:1. A little over half (11) of the participants were students, 45% of whom were females. All recruited patients had urine protein-creatinine ratios that was e" 3, with the average eGFR at 185 ± 37 ml/min/1.73m^2. They were all hepatitis B, C and HIV negative. Only one participant (5%) and 3 (15%) had elevated systolic and diastolic blood pressure respectively. All the patients had high dose corticosteroid and the remission rate was 85%.

Conclusion: While it may not be the commonest cause of nephrotic syndrome in adults, adult onset MCD has identical clinical characteristics to its childhood onset counterpart.

5.   NAN2020/RPT/05
CLINICO-PATHOLOGIC PATTERNS OF ADULT GLOMERULONEPHRITIDES IN NIGERIA: A SINGLE CENTRE STUDY.

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Introduction: Glomerulonephritis (GN) is one of the major causes of chronic kidney disease (CKD) worldwide. It remains the leading cause of End Stage Kidney Disease (ESRD) in many developing countries. It is presumed to be responsible for more than half of patients with ESRD in Africa. The clinical course, pattern and presentation of glomerular disease varies world-wide and may be due to differences in genetics of underlying population or exposure to putative antigens or agents that induce or trigger these responses. This study evaluated the clinicopathologic patterns of glomerular diseases in a homogenous black population in the hope that it will provide some data on glomerulonephritides in this population. We aim to describe the pattern of biochemical abnormalities and histopathologic variants in adults with GN at OAUTHC, Ile Ife.

Methods: The study was a cross sectional hospital based study of seventy (70) consecutive adult patients with features of glomerulonephritis who presented for check up at the nephrology and other MOPD clinics, GOPD as well as the hospital staff clinic of OAUTHC Ile-Ife. A structured 4-part proforma was drawn up and administered to obtain information on socio-demographic, clinical, anthropometric parameters and

laboratory investigation results. Relevant laboratory tests and investigations were performed. Renal function was assessed and renal biopsy performed after obtaining written informed consent. The renal tissues obtained were subjected to light microscopy and immunoperoxidase staining with IgA, IgM, IgG and C_3 antibodies and the results interpreted.

Results: A total of seventy patients participated and completed the study. Three (3) patients had inadequate renal tissue for histologic appraisal hence data analysis was based on the remaining sixty seven (67) patients.The age range of the study population was between 18 and 65 years with a mean age of 28.43 (±10.33) years. Forty- five males (67.2%) and twenty-two females (32.8%) were in the study population with an overall male to female ratio of 2:1. The most common clinical manifestation was nephrotic syndrome which was present in 41 (61.2%) of the study population. The most common histological diagnosis was FSGS seen in 30 patients (44.8%).

Conclusion: Focal segmental glomerulosclerosis (FSGS) was the commonest histological type found in these patients with glomerulonephritis, while the commonest clinical presentation was nephrotic syndrome.

6.   **NAN2020/RPT/06**
      RENAL FUNCTION CORRELATION WITH HISTOLOGIC ACTIVITY AND CHRONICITY INDICES IN ADULT PATIENTS WITH GLOMERULONEPHRITIDES AT OBAFEMI AWOLOWO UNIVERSITY TEACHING HOSPITALS COMPLEX, ILE-IFE.

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Introduction: Glomerulonephritis (GN) is one of the major causes of chronic kidney disease (CKD) worldwide. It remains the leading cause of End Stage Kidney Disease (ESRD) in many developing countries including Nigeria with varying clinical course and histologic pattern. The clinical outcome and the degree of renal impairment observed in patients with glomerulonephritides is dependent on the type and extent of the histological lesion identified in the glomerulus and tubulo-interstitium. Renal biopsy remains an important diagnostic tool in patients with glomerulonephritisvarying indications. This study is unique because the histologic features observed in the glomerulus and tubulo-interstitium were graded, scored and correlated with clinical as well as biochemical features. This will add to the body of knowledge on glomerulonephritides in this environment.

Objectives: To determine the grading and severity of histologic features observed in the glomerulus and tubulo-interstitium.; To determine the relationship (if any) between clinical, biochemical and histologic features in adults with GN at OAUTHC, Ile-Ife.

Methods: The study was a cross sectional hospital based study of seventy (70) consecutive adult patients with features of glomerulonephritis who presented at the nephrology and other clinics of OAUTHC Ile-Ife. Renal function was assessed and renal biopsy performed after obtaining written informed consent. The renal tissues obtained were subjected to light microscopy and immunoperoxidase staining with IgA, IgM, IgG and C_3 antibodies and the degree of involvement of glomeruli, tubules, interstitium and vessels were graded from 1 to 4 according to severity. Total activity and total chronicity indices were collated and their association/correlation with clinical parameters assessed.

Results: A total of seventy patients participated and completed the study. Three (3) patients had inadequate renal tissue for histologic diagnosis hence data analysis was based on the remaining sixty seven (67) patients. Statistically significant correlations were found between the interstitial scores for activity (interstitial oedema, interstitial infiltrate), the total activity index with serum creatinine and GFR : interstitial oedema with serum creatinine ($r=0.35$, $p=0.003$) and GFR ($r=-0.38$, $p=0.004$); interstitial infiltrate with serum creatinine ($r=0.52$, $p<0.0002$) and GFR ($r=-0.70$, $p=0.002$); total activity index with serum creatinine ($r=0.60$, $p=0.0001$) and GFR ($r=-0.48$, $p = 0.004$). Statistically significant correlations was also seen between total chronicity index and test of renal function: total chronicity index with serum creatinine ($r=0.62$, $p=0.001$) and GFR ($r= -0.58$, $p<0.00001$).

Conclusion: Both activity and chronicity indices significantly influence renal function. The higher they are the lower the GFR and vice versa, this suggests aggressive management protocol for patients with higher indices. The histologic scoring system would assist in assessing the severity of the lesion which could influence renal disease progression and management plans.