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CLINICAL PATTERN AND OUTCOME OF LUPUS NEPHRITIS IN SOUTHWEST NIGERIA: A REVIEW OF 70 CASES

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Background: Renal disease is a frequent manifestation of SLE with significant impact on patient's outcome. The aim of this study is to determine the clinical features, survival, and renal outcomes of 70 patients with LN followed up at the Obafemi Awolowo University Teaching hospital over a period of 20 years (1999-2021).

Methods: The diagnosis of SLE was made when patients fulfil the ACR criteria while nephritis was diagnosed in those that had persistent proteinuria > 0.5 g per day or greater than 3+ by dipstick, and/or cellular casts including red cell, hemoglobin, granular, tubular, or mixed. Demographic, clinical and para-clinical data were collected from their medical records. Patients were followed up from the time of diagnosis to the time of last follow up visit or death. Data was analysed using SPSS package.

Results: Patients' age ranged between 15 and 64 years (mean±S.D; 33.3 ±11.28yrs) with a median follow up of 16 months (IQ range 3 - 36 months). Majority were females (89%). The common clinical findings at the time of diagnosis were joint pain (83.8%), frothy urine (82%), malar rash (62.3%), anemia (62.5%), oral ulcers (47.8%) photosensitivity (42.4%), and alopecia (39.7%). Antinuclear antibodies and anti-double stranded DNA antibodies were detected in 84% and 56.3% respectively of all the patients that had the test. The mean eGFR of the patients at presentation was 46 ±37 ml/min/1.73m^2. Eighty four percent of them had proteinuria with median (IQ range) 24 hours protein estimation of 1.2(0.5-3.6) g/day, while 48.6 % had dysmorphic red blood cells and/ or cellular cast in the urine at presentation. Of the 21 patients that had renal biopsy, class IV (n= 6, 28%) and class V (n= 6, 28%) were the commonest histological patterns while 19% had class lI LN. During the follow up period, 19 (27.1%) patients progressed to ESRD within the first three months and twenty-one (30%) deaths were recorded.90% of the deaths recorded (n=19) were among the patients that progressed to ESRD.

Conclusion: Advanced renal disease is a major cause of mortality among LN patients in our setting.

CLINICAL PROFILE OF ADULT NIGERIANS WITH LUPUS NEPHRITIS

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Introduction: Systemic lupus erythematosus (SLE) is a multisystemic disorder with high morbidity and mortality. SLE disease has protean manifestations and could mimic many other common diseases, particularly

in the tropics where infectious diseases are prevalent. Lupus nephritis is a major complication of SLE and significantly affects the patients' outcomes. This study described the clinical and laboratory profiles of patients with Lupus Nephritis managed at the University College Hospital, Ibadan.

Method: This is a retrospective study of patients with diagnosis of Lupus Nephritis receiving care at the University College Hospital, Ibadan, Nigeria between 1st January 2017 – 31st December 2021. The records all patients with the diagnosis of Lupus Nephritis and information obtained were demographic details, lifestyle, clinical presentations, co-morbidities, laboratory data including urinalysis, urine microscopy, serum electrolytes, urea and creatinine, full blood count, erythrocyte sedimentation rate serology for antinuclear antibodies (ANA) and antidouble stranded DNA (anti-dsDNA).

Results: A total of 54 patients with Lupus nephritis records were reviewed, 50(92.6%) were male while 4 (7.4%) were males. The mean age, eGFR, ESR, haemoglobin concentration and ANA titre were 33.4±13.4 years, 57.7±34.8 ml/min/1.73m^2, 101.9±24.3mm/Hour, 6.9±2.7g/dl and 1/486, respectively. The prevalence of reduced eGFR, proteinuria, haematuria, anaemia, and hypertension were 31 (57.4%), 48 (88.7%), 34 (63%) 43 (79.6%), 37(68.5%), respectively. Twenty-one patients 21(38.9%) presented predominantly with features of kidney disease and were not aware of the diagnosis of SLE while only 22 (40.7%) had kidney biopsy and Class III was the most prevalent class 7 (31.8%).

Conclusion: Lupus nephritis is not as uncommon as previously thought and may manifest with predominantly features of kidney disease. The CKD of unknown cause should be screened for Lupus nephritis particularly among females of reproductive age group.

CLINICAL PROFILE OF YOUNG ADULT NIGERIANS WITH CHRONIC KIDNEY DISEASE

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Introduction: Chronic kidney disease (CKD) is major cause of morbidity and mortality. The burden of CKD is higher among the sub-Saharan African population due to many factors. Most studies on epidemiology of CKD have reported that Africans tends to develop CKD and End Stage Kidney Disease (ESKD) at an earlier age compared to other population. This study aimed to describe the clinical characteristics of young adults with CKD.

Method: This is a retrospective study of patients with diagnosis of CKD admitted in the adult nephrology wards of the University College Hospital, Ibadan, Nigeria between 1st January 2017 – 31st December 2021. The records of all patients admitted on account of CKD whose age were between 15 and 30years were reviewed and information obtained were demographic details, lifestyle, clinical presentations, and co-morbidities.

Results: A total of 2645 patients were admitted and managed by the adult nephrology unit during the period under review, while 1,002 patients were within the ages 15 -30years (37.9%), the mean age for the young adults was 17.5±2.4years and 581 (51.7%) were males. The mean serum creatinine and haemoglobin

concentrations were 5.8±2.8mg/dl and 7.8±1.2g/dl, respectively. The etiologies of CKD were unknown in 399 (39.8%) of the patients, while in those with known aetiology, Chronic Glomerulonephritis (CGN) 310 (30.9%), Hypertension 72 (7.8%), HIVAN 56 (5.5%), Sickle Cell Nephropathy 43 (4.3%), Diabetic Nephropathy 32 (3.2%) and others 39 (3.8%) were prevalent.

Conclusion: The study confirmed the earlier report that CKD is common among young adults in the sub-Saharan Africa, in addition to observing that the etiology of CKD were unknown in a large proportion of this young adults. While CGN, Hypertension and HIVAN were the leading causes of CKD in this population.

HEPATO-RENAL AND INFECTIOUS IMPLICATIONS OF SUBSTANCE ABUSE AMONG BORSTAL HOME INMATES

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Background: The use of Psychoactive Substances predates civilization. The use of these substances is increasing worldwide. Prior to now, Nigeria was overburdened majorly with tobacco and alcohol. The menace of substance abuse in Nigeria especially among adolescents have become an epidemic. Unfortunately, it has a lot of health and social consequences.

Aim: The main aim of the study was to assess disease burden among Borstal home inmates that have abuse substances

Method: It was cross-sectional study. All Borstal home inmates where administered with questionnaire to assess their biodata, medical history, social history including substance abuse history. Their anthropometry, blood pressure, blood sugar were measured. They were then investigated for hepatitis B and C, HIV, liver and renal function. Data were analyzed using SPSS version 25.

Results: A total of 365 participants were analyzed, of whom 351 (96.2%) were males. Among the substances consumed Codeine was the most consumed by 48.6%, followed by Tramadol (33.8%). Viral infections were found at different prevalence HBsAg 30/365 (8.2%), HCV Ab 12/365 (3.3%), HIV 7/365 (1.9%). Overall, use of substances was found to be significant risk for systolic Blood pressure (P = 0.0249), while Codeine abuse had significant effect on diastolic Bp (P = 0.0144). Substance abuse was found to be a significant risk for eGFR < 60 ml/min/1.73m^2 (P= 0.0067). Similarly, it was found to be a significant risk for ALT > 2x ULN (P= 0.0485). The abuse of tramadol was found to be significant risk for HIV (P= 0.0023)

Conclusion: Substance abuse is prominent among Borstal home inmates and has been demonstrated to k a risk on high blood pressure, CKD, CLD and HIV infections.

INCIDENCE, ASSOCIATED RISK FACTORS AND OUTCOMES OF PREGNANCY-RELATED ACUTE KIDNEY INJURY IN NORTH CENTRAL, NIGERIA

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Background: Although the incidence of Pregnancy-related acute kidney injury (PR-AKI) continues to decline in developed countries, it remains an important cause of maternal mortality and poor fetal outcome in the developing countries. Moreover, more than 50% of global maternal deaths occurred in Sub-Saharan Africa (SSA), and the impact of AKI to this exceptionally high maternal mortality is largely unknown. Thus, this study aimed to evaluate the incidence of PRAKI, maternal and fetal outcomes of patients with PRAKI.

Patients and Methods: A prospective multicenter study involving women with greater than 20 weeks gestation and within six weeks of postpartum period, admitted into the Obstetrics and Gynecology units of Ibrahim Badamasi Babangida Specialist Hospital (IBBSH) and Jummai Babangida Aliyu Maternal and Neonatal Hospital Minna between 1st September 2019 and 31st October 2021. AKI was defined and staged according to the Kidney Disease Improving Global Outcomes (KDIGO) criteria.

Results: A total 431 women with a mean age of 28±6 years were evaluated; Pregnancy related AKI occurred in 109 women (25.3%; 95% confidence interval [CI], 21.2 to 29.4). The proportions of patients in AKIN stages 1, 2 and 3 were 38 (34.9%), 33(30.3%) and 38(34.9), respectively. Twelve (11.0 %) of patients who had AKI required dialysis, and 2 (1.8%) progressed to end stage kidney disease.
The identified causes of PR- AKI were eclampsia 53(48.6%), pregnancy induced hypertension 14 (12.8%), pre-eclampsia 11 (10.1%), postpartum hemorrhage 11(10.1%), antepartum hemorrhage 8(7.3%), and sepsis 6(5.5%). The overall maternal mortality included 16 (3.7 %) deaths, of which 15 (11.1%) occurred in the PR-AKI group. Increasing severity of PRAKI was associated with maternal mortality after adjusting for other variables; adjusted odds ratio of AKIN stage 2 = 2.65 (95 % CI 0.43-16.1; $p = 0.29$), and AKIN stage 3 = 6.16 (95 % CI 1.17–32.15; $p = 0.03$). The overall perinatal mortality was 62 (14.4%; 95% CI 11.1-17.7), and 27 (24.7%) of the perinatal deaths occurred in the PRAKI group. PRAKI conferred an increased risk of perinatal mortality (adjusted Odd ratio 2.34;95CI 1.30-4.31; p=0.004).

Conclusion: The incidence of PRAKI was found to be high and significantly associated with both maternal and perinatal mortality. While hypertensive disorders are found to be the leading causes of PRAKI in our pregnant women. Therefore, early detection and prompt management of hypertensive disorders may improve maternal -fetal outcomes in our pregnant women.

PREDICTORS OF IN-HOSPITAL MORTALITY IN PATIENTS WITH RT-PCR CONFIRMED LASSA FEVER INFECTION TREATED AT A NATIONAL TREATMENT CENTER, SOUTH-WEST NIGERIA

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Background: Lassa fever (LF) infection is one of the viral hemorrhagic fever diseases found mainly in Sub-Saharan West Africa, including Nigeria. The case fatality rate is 60% among patients with Lassa fever complicated by AKI in one center study in Nigeria. Clinical and laboratory parameter has been documented as predictors of mortality among confirmed Lassa fever infected patients.Therefore, we decided to conduct similar study in our hospital to determine predictors of in-hospital mortality among Lassa fever infected patients.

Aim: This study was designed to determine the in-hospital clinical and laboratory predictors of outcome among RT-PCR (Real Time- Polymerase Chain Reaction) diagnosed Lassa fever patients.

Methodology: This was a descriptive retrospective study involving the assessment of records of confirmed LF infected patients that were managed at the center from December 2019 to December 2020. 147 medical case record files of patients were retrieved for this study.

Results: We found in our hospital setting, altered sensorium (p=0.001), seizures (p=0.001), bleeding diathesis (p=0.001), oliguria (p=0.001), elevated urea (p=0.001), elevated creatinine (p=0.001), hypoalbuminaemia (P=0.001), elevated GOT (P=0.008) as significant predictors on in-hospital mortality.

Conclusion: This study has helped us to identify the clinical parameters such as bleeding, central nervous sistem affectation, oliguria, tachycardia, tachypnea, hypoxaemia and laboratory parameters stith as, elevated urea, elevated creatinine, hypoalbuminaemia as predictors of in-hospital martality in RT-PCR confirmed Lassa fever patients. We believe early recognition of de angements of these parameters and with prompt intervention shall help to improve standards of care and outcome.

PREVALENCE AND DETERMINANTS OF PERIPHERAL ARTERIAL DISEASE IN CHILDREN WITH NEPHROTIC SYNDROME ATTENDING LAGOS STATE UNIVERSITY TEACHING HOSPITAL

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Introduction: Nephrotic syndrome is the commonest presentation of renal glomerular disease in childhood. Many complications occur as a result of both the clinical condition and the treatment. The least studied of these complications is perhaps peripheral arterial disease. Risk factors which predispose children with nephrotic syndrome to developing peripheral arterial disease include hyperlipidaemia, persistent proteinuria, recurrent infections, hypertension and prolonged use of steroids. The development of peripheral arterial disease significantly increases the morbidity and mortality associated with nephrotic syndrome as such children are

more prone to arrythmias and sudden cardiac death. The ankle brachial index is a tool that has been proven to have high specificity and sensitivity in detecting peripheral arterial disease even in asymptomatic individuals. The present study aimed to determine the prevalence of peripheral arterial disease in children with nephrotic syndrome and to identify risk factors that can independently predict the development of peripheral arterial disease.

Methods: A comparative cross-sectional study was conducted between August and November 2020, involving 200 subjects (100 subjects with nephrotic syndrome and 100 apparently healthy controls that were matched for age, sex and socioeconomic class). The subjects were recruited consecutively from the Pediatric nephrology clinic of the Lagos State University Teaching Hospital. A proforma was used to get details from their case notes (duration since diagnosis, steroid response pattern, cumulative dose of steroid use, frequency of relapse). Anthropometry measurements were determined and systolic blood pressures measured in all limbs using the pocket Doppler machine (Norton Doppler scan machine). Ankle brachial index was calculated as a ratio of ankle to arm systolic blood pressure. Peripheral arterial disease was defined as ankle brachial index less than 0.9. Blood and urine samples were collected for laboratory investigations including serum creatinine, serum lipid profile, serum albumin, serum protein, serum C reactive protein, random blood glucose, urinalysis, and urine protein creatinine ratio.

Results: The prevalence of peripheral arterial disease was significantly higher in children with nephrotic syndrome than matched controls (44.0% vs 6.0%, $p < 0.001$). The mean value of ankle brachial index was significantly lower in the cases compared to controls (0.91 ± 0.15 vs 1.02 ± 0.11, $p < 0.0001$). Average values of waist and hip circumference were significantly higher in subjects with peripheral arterial disease than those without peripheral arterial disease (61.68 ± 9.1cm and 67.65 ± 11.2 cm vs 57.03 ± 8.3cm and 65.60 ± 12.5cm respectively, $p < 0.005$). Serum lipids (triglyceride, very low density lipoprotein, total cholesterol and low density lipoprotein) were also significantly higher in subjects with peripheral arterial disease than those without peripheral arterial disease [106.65mg/dI (67.8-136.7) vs 45.72 mg/dl (37.7- 61.3), 21.33mg/dI (13.6-27.3) vs 9.14mg/dI (7.5-12.3), 164.43mg/dl (136.1-259.6) vs 120.72mg/dI (111.1-142.1) and 93.29mg/dl (63.5-157.3) vs 61.84mg/dl (32.6-83.1), respectively $p < 0.05$]. Increasing duration since diagnosis of nephrotic syndrome, having a steroid resistant nephrotic syndrome, and increasing cumulative steroid dose were independent predictors of peripheral arterial disease in children with nephrotic syndrome $p < 0.05$ respectively).

Conclusion: With the documented high burden of peripheral arterial disease from the current study, early screening may be useful in children with nephrotic syndrome to prevent complications such as arrythmias before they arise.

RECRUITMENT AND RETENTION OF PARTICIPANTS IN CLINICAL RESEARCH IN AFRICA: EXPERIENCE FROM H3AFRICA KIDNEY DISEASE RESEARCH NETWORK

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Introduction: Insufficient recruitment and retention of participants into studies are challenges facing clinical research in Africa. Understanding these challenges in local or regional settings would assist in proffering solutions that may enhance smooth conduct and timely completion of research projects. There are few studies on challenges of participants' enrollment in large clinical research in Africa.

Aims: The aim of this study is to determine factors that affect recruitment and retention of persons into the H3Africa kidney disease research network (H3AKDRN), and to recommend strategies to improve them.

Methods: We conducted a survey using structured questionnaire to collect data from the investigators, research coordinators and research assistants of H3Africa kidney disease research network on their local experiences during the study. H3AKDRN is the largest case-control study of clinical, epidemiological and genetic study of chronic kidney disease in Africa. We also searched the pubmed for original studies and systematic reviews to extract previously-documented factors that affects recruitment into clinical studies in Africa. We analyzed the data using STATA version 16, and we expressed the factors that affect participants' recruitment and retention in proportions.

Results: Eighty personnel completed the survey in 13 clinical centers (2 in Ghana and 11 in Nigeria). Fifty-six (70%) were investigators, research nurse or coordinators, while 30% were laboratory assistants and other staff. About 8,000 participants have been recruited into the study. The barriers to participants' recruitments and retention were: lack of time to address participant's complaints (98.7%), discouraging influence of family and community (82%), insufficient information or poor understanding of the study (78.7%), long hours of recruitment (72.5%), and perception of collection too much blood samples (72.5%). To improve enrollment of participants, we recommend regular feedback from participants, motivation of research staff and increased community involvement.

Conclusions: Enrollment and retention of participants into large clinical research in Africa has challenges that could be surmounted by continuous community engagement, adequate information to the participants, and regular attention investigators to participants' complaints among other strategies.

Keywords: *Recruitment, retention, enrollment, clinical research, Africa*

.SUBCLINICAL HYPOTHYROIDISM IN CHILDREN WITH NEPHROTIC SYNDROME ATTENDING LAGOS STATE UNIVERSITY TEACHING HOSPITAL

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Introduction: Hypothyroidism in children with Nephrotic syndrome (NS) is often attributed to prolonged loss of thyroxine binding globulin and thyroid hormones alongside protein in the urine. It has been historically associated with steroid resistant NS alone. However recent evidences support subclinical hypothyroidism even in steroid responsive children with NS. Diverse complications can arise from hypothyroidism such as weight gain, hypercholesterolemia, delayed growth, delayed puberty and depression which could all be erroneously attributed to NS or the effect of steroid in its treatment. Incidentally salt intake, the major form of dietary iodine is often restricted in children with NS, possibly exacerbating any underlying hypothyroid state. The study aimed to determine the burden of subclinical hypothyroidism among our cohort of NS patients.

Methods: A comparative cross sectional study was designed to assess subclinical hypothyroidism [defined by high TSH (> 6.0mU/L and normal T4 (0.8-2.0 ng/dl)] in hundred children with NS aged 1 to 15 years compared with hundred age and gender matched controls. Blood and urine samples were collected for laboratory investigations including thyroid function test, serum albumin, serum protein and urinary protein.

Results: The prevalence of subclinical hypothyroidism was significantly higher in subjects with NS than age, sex matched controls (12% vs 2%, p=0.006). The highest proportion(24.1%) of the children with NS who had subclinical hypothyroidism were found in the age range of 11-15 years and majority were females (19.4% vs 7.8% respectively). The proportion of children with subclinica hypothyroidism were higher in those with steroid resistant NS than those with steroid sensitive NS (26.3% vs 8.6% p=0.033). The average values of serum albumin and protein were also significantly lower in children with subclinical hypothyroidism than those without (2.91 mg/dl ±0.8 vs 3.78mg/dl ±0.9 and 3.99mg/dI ±1.3 vs 5.02mg/dl ±1.3 respectively, p < 0.005). Also, the average value of urinary protein was significantly higher in those with subclinical hypothyroidism than those without [94.29mg/dI (42.3-101.0) vs 69.19mg/dI (31.2-108.2) respectively p=0.023]. Participants with steroid resistant NS have almost three-folds odd of developing subclinical hypothyroidism compared to steroid sensitive subjects (AOR 2.901; 95% CI 1.831-4.012; p =0.038).

Discussion: Our study demonstrates that a high proportion of children with NS have subclinical hypothyroidism when compared to matched controls. This may probably be due to urinary losses of binding proteins such as thyroxine binding globulin, pre albumin and albumin. Children with steroid resistant NS are particularly at increased risk of developing subclinical hypothyroidism.

Conclusion: Screening of children with NS especially steroid resistant NS before complications arise is pertinent to their holistic management. This becomes even more imperative in our environment as iodine deficiency hypothyroidism is still prevalent in some parts of the country.

THE HISTOPATHOLOGICAL PATTERN OF CHILDHOOD NEPHROTIC SYNDROME IN ENUGU, SOUTH-EAST NIGERIA

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Introduction: Steroid-resistant nephrotic syndrome (SRNS) is a clinical entity of childhood nephrotic syndrome (CNS) that often fails to respond to standard steroid therapy and has the propensity to progress to end-stage renal disease (ESRD). With regards to treatment, it also poses a significant challenge and will require an appropriate understanding of the histopathological pattern. Currently, there is no information on the spectrum of histopathological lesions of children with SRNS in our institution

Aim: This study aims to determine the histopathological patterns of SRNS in our region.

Subjects and Methods: All children (d" 18years) presenting with SRNS, in whom renal biopsies were performed at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, over a 5 year period from 2016 – 2020 were included. The socio-demographic, clinical (including response to steroid therapy and

renal-transplant cases) data and histopathological pattern (including indications for renal biopsy) were documented.

Results: Out of a total of 150 patients, one hundred and eighteen (78.7%) had idiopathic nephrotic syndrome while the rest (21.3%) had secondary nephrotic syndrome. Only 44 (29.3%) were steroid resistant. Sixty-eight patients had renal biopsy, the commonest indication being steroid-resistance. The commonest histological pattern was Focal Segmental Glomerulosclerosis (63.2%). Eleven (7.3%) of them received calcineurin inhibitors of which one developed Kaposi sarcoma. Only four (9%) had renal transplant.

Conclusion: FSGS is the commonest histological pattern of idiopathic CNS in Enugu.