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CNP-24-001: Prevalence and Distribution of HPV Genotypes in Cervical Cancer in Ilorin: Implications for Available Patent Vaccine

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Introduction: Cervical cancer is a major health concern worldwide, ranking as the fourth most common cancer among women. The human papillomavirus (HPV), a widespread virus, is strongly linked to several cancers, especially cervical cancer, making it a leading cause of this disease globally. This disease develops gradually, often beginning as a precancerous condition known as dysplasia, which can evolve into invasive cancer if left untreated. This study investigates the types and distribution of HPV found in cervical cancer cases diagnosed in Ilorin, Nigeria, over the study period. **Methods:** This is a retrospective review using genomic material extracted from biospecimen

samples and polymerase chain reaction (PCR)

techniques, to explore HPV genotypes, with both consensus and type specific HPV 16 and 18 primers. **Results:** There were 98 bio-specimen in all with overall HPV prevalence of 3.1% and 33.34% for HPV 16. The ages of the participants range from 22 to 85 years, with a mean of 53 and a parity range from 0 to 9. Most were Muslims and predominantly worked in civil service roles, often presenting with abnormal vaginal bleeding. **Conclusion:** While the overall prevalence of HPV was low, HPV 16 was notably present, influencing vaccine considerations like Gardasil 9. These findings highlight the need for targeted public health measures, including vaccination, to curb cervical cancer in Ilorin.

Keywords: Cervical cancer, HPV, genotype, vaccine

CNP-24-002: HLA Typing for Organ Transplantation in Resource-limited Settings: An Initial Experience from Kano, Nigeria

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Background: HLA typing and matching are critical to the success of organ transplantations. However, setting up and maintaining HLA typing laboratories are associated with numerous challenges. Here, we report our initial experience setting up and maintaining an HLA typing laboratory in a public hospital in Nigeria. **Methodology:** Our experiences from 2020 to 2024, covering the planning through to the maintenance of the HLA typing facility at Aminu Kano Teaching Hospital in Kano, northwestern Nigeria, are documented and presented here. **Results:** Setting up funds were obtained through a Corporate Social Responsibility of another Nigerian Government Agency. Equipment procurement was done through an upfront contract, with onsite training of technical staff and continuous virtual support. Power supply was diversified from the national grid, solar-powered electricity panels, and a 20kva diesel-powered generator set backups. Equipment servicing is on-demand. Lab operations are maintained through a separate laboratory revolving fund. The techniques available include PCR Sequence Specific Primers; Luminex LabType Sequence-Specific Oligonucleotide; HLA antibody screening and identification; complement-dependent cytotoxicity crossmatching; virtual crossmatching; flow-cytometry-based antibody identification and crossmatching. Over these 4 years, 186 tests were conducted (162 typing, 16 antibody screening, 4 antibody identification, 4 crossmatch, 0 flow cytometry). Internal requests were 160 (86.0%) while 26 (14.0%) were external. Kidney transplantation was the major indication of requests (179, 96.2%). Challenges include high costs of reagents/consumables; retraining, and equipment

maintenance issues; technical and financial burden of uninterrupted power supply; and encumbrances of government procurement bureaucracy. **Conclusion:** Setting up and maintenance of a functional HLA typing program is feasible in government-owned tertiary health facilities in resource-limited countries. Proper resource management, continuous institutional commitment, local biomedical engineering support, and external sample referral collaborations are essential to sustain this program.

Keywords: Human Leucocyte Antigen, Tissue Typing, Bone Marrow Transplantation, Africa, Resource-limited Setting

CNP-24-003: Streamlining Laboratory Services Using AI: Enhancing Efficiency and Accuracy at Aminu Kano Teaching Hospital, Kano, Nigeria

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Background: Artificial Intelligence (AI) has revolutionized laboratory medicine, enhancing diagnostics, optimizing patient care, and streamlining workflow. AI automates various laboratory processes, from sample handling to data analysis, reducing errors attributed to lack of adherence to standard quality practices and improving turnaround times. Machine learning processes large datasets, identifies diagnostic

patterns, and provides predictive analytics for disease outcomes, improving diagnostic accuracy and personalized treatment plans. This study highlights integrating AI-driven technologies at Aminu Kano Teaching Hospital (AKTH), Nigeria to improve the quality and efficiency of laboratory service resulting in improved client satisfaction. **Methods:** Our laboratory embarked on a gradual but sustained process to improve all phases of laboratory testing and restore client satisfaction as well as to ease time-consuming manual processes. This was achieved by transitioning from manual to digital systems through the implementation of a Laboratory Information System (LIS). Measures were initiated to streamline our laboratory path of workflow, optimize procurement and inventory management, improve revenue generation, improve data quality for research, enhance quality control, predictive analysis, and decision support. **Results:** The number of samples processed in the Chemical Pathology Lab rose from 110,000 in 2018 (pre-LIS) to 165,000 in 2023, despite a dip to 78,000 in 2020 due to COVID-19. Eighty percent (80%) digital result migration NHIA lab was achieved, with outpatient turnaround times below 24 hours. Revenue leakage has significantly decreased, and outpatient services are highly efficient, despite some compliance issues. AKTH Smart-Box data quality for outpatients is 90%, while it remains 0% for inpatients. Health-in-the-Box data quality is 0% for outpatients and 50% for inpatients. Digital result migration for outpatients is 50% complete, while for inpatients, no progress has been made. Inpatient turnaround times are indeterminate. Challenges include inadequate infrastructure, policy non-compliance, and communication barriers, with ongoing efforts in training, equipment upgrades, and policy enforcement to address these. Recommendations include further digitization, solar power backup, and improved

communication channels. **Conclusion:** AI integration has greatly improved efficiency and productivity, showcasing its potential to transform healthcare delivery and providing a model for other institutions to enhance laboratory operations.

Keywords: Laboratory Information System, Pathology, Automation, Africa, Quality improvement.

CNP:24-004: Leg Ulcers in Sickle Cell Disease: A Systematic Review and Meta-Analysis (SRMA)

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Background: Leg ulcer is one of the haemolysis-endothelial dysfunctions of Sickle Cell Disease (SCD). The study determined global and continental prevalence of sickle leg

ulcers, impact of age, sex, SNPs, cytokines, treatment modality and geographical location.

Methods: A SRMA of observational studies on SLU from 1940-2024. Databases were searched. Primary articles were screened and data coding done in Rayyan QCRI. CMA V4 software and GraphPad Prism v10 were used. Protocol was registered in PROSPERO, CRD4202020213310. **Results:** Of 370 primary studies screened, 75 contained 146,096 SCD patients with 8792 eligible SLU. M:F ratio 1.6 (IQR: 1.0 – 2.1). Median age 27.8 years (IQR: 21.3-36.3). Median NIH score for risk of bias of included studies 8.0 (IQR: 7.0-9.0). SLU global pooled prevalence 11.3 % (95% CI: 8.6 – 14.8%); children 4.4% (95% CI: 2.4 – 7.7%); and adults 13.0% (95% CI: 9.0 – 18.4%). Prevalence: South America 24.8% (95% CI: 17.3 – 34.3%); Europe 4.1% (95% CI: 2.3 – 7.1%), North America 15.3% (95% CI: 6.4 – 32), Africa 8.8 % (95% CI: 6.0 – 12.8%); and Asia 7.1% (95% CI: 4.6 – 10.9%). Pooled odd ratio (OR) for SNPs 1.34 (95% CI: 1.11-1.56). Most significant SNP was rs671084 OR: 3.07 (95% CI:1.47 – 4.67). Pooled mean difference in plasma cytokine level between SLU and non-SLU patients was 0.36 pg/ml (95% CI: 0.01 – 0.71), with IL-8 being most prevalent linked to SLU. The pooled % treated globally with HU was 31.2 %, BT 25.8 %. Statistics showed I^2 value 99 %, Q-statistic 10009.8, df (Q) 74 and $p = 0.0000$. Funnel plot was symmetrical, associated statistics confirmed no publication bias. **Conclusion:** Increasing age and being male elevated risk of SLU. SNP rs671084 and IL-8 cytokine showed strong association with SLU, as predictive markers that require further studies and clinical validation.

Keywords: Sickle leg ulcer, Single Nucleotide Polymorphism (SNP), Interleukin (IL), Hydroxyurea (HU), Blood transfusion (BT)

CNP-24-005: Gossypiboma – A Transmigration Across Multiple Bowel Loops: Case Report of a Very Rare Post-Operative Complication

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Background: Gossypiboma (textiloma) refers to a fabric body involuntary left in a patient during surgery, and the reactions secondary to its presence in the body. It is a serious but avoidable rare surgical complication. The secondary reaction can be an exudative inflammatory reaction with the formation of an abscess, or an aseptic fibrotic reaction with a mass formation that can transmigrate between bowel loops causing bowel perforation, and or fistula formation. We report a very rare case of spontaneous transmigration of surgical gauze across multiple bowel loops presenting with features of intestinal obstruction. **Case report:** A 38-year-old woman presented to a peripheral healthcare facility in Gombe with complaints of recurrent episodes of diffuse abdominal pain,

weight loss and occasional constipation for 2 years. The patient had caesarean section 2 years prior to presentation at a sub-urban hospital for a prolonged obstructed labour. Examination showed moderate diffuse abdominal tenderness with a mass palpated in the epigastric area, which was tender, hard and ill-defined. Abdominal plain radiograph showed centrally located dilated bowel loops, and abdominal ultrasonography revealed an irregular mass of heterogenous echogenicity likely arising from the small bowel with dilatation of the bowel loops and increased peristalsis. Exploratory laparotomy and bowel resection with jejunoleal anastomosis was done and the sample was sent to our laboratory for histopathologic assessment. Gross pathological examination showed two matted bowel segments with an abdopack found within the lumen covered by yellowish creamy material, and fistula between the two intestinal segments. Chronic inflammatory response was noted microscopically, and we made a diagnosis of gossybioma. **Conclusion:** This case report aims to draw attention of the surgeons on the need of adequate precaution during surgeries to avoid leaving fabric objects inside patients' body, and to have high index of suspicion in patients with similar clinical presentation. Transmigration of these materials could occur and mimic an intestinal malignancy.

Keywords: Gossybioma, Transmigration, Complication, Intestine

Cnp-24-006: Evaluation of Renal Status in a Cohort of Patients with Hodgkin Lymphoma

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Background: Hodgkin lymphoma (HL) is a B-cell neoplasm which commonly presents as lymphadenopathy. Renal derangement is a recognized complication of this disease and early detection of renal derangement may aid treatment and improve survival. The aim of this study is to assess the baseline renal status of patients with Hodgkin's lymphoma at UNTH Enugu. **Method:** This was an analytical cross-sectional study conducted at the University of Nigeria Teaching Hospital, Ituku-Ozalla Enugu between April 2017-April 2019. Venous blood samples collected from newly diagnosed HL patients and controls were analyzed for markers of renal function. Data was analyzed using SPSS version 23. Normality of distribution of continuous variables was checked using Shapiro-Wilky test. Categorical variables were described using frequency count and percentages. The difference in renal markers between the patients and controls was done using Mann-Whitney U-test. The relationship between the renal markers (as categories) and the histological subtypes of HL was done using the Fisher exact test. **Results:** The study involved 90 participants (45 patients and 45 controls) with age and sex matching done for both groups. Among those with HL, the predominant age group was young adults (25-44 years), and the most prevalent subtype was the nodular sclerosing subtype. With regards to the renal markers, participants with HL had significantly lower levels of bicarbonate (U=609.00, p=001), and chloride (U=684.50, P=0.008) when compared to the control groups. However, there were significantly higher levels of potassium (U=750.00, p=0.033), urea (U=625.00, p=0,002) and creatinine (U=562.00, p=0.000) in patients in HL when

compared to the control groups. There was no significant difference in the levels of the renal markers among the histological subtypes of HL.

Conclusion: The renal status of patients with HL was significantly deranged at baseline when compared with controls. However, the levels of renal markers did not differ among the different histological subtypes of HL.

Keywords: Hodgkin lymphoma, renal status, Enugu, Nigeria

CNP-24-007: A Case Report of Mixed Tapeworm Infection in a Preschool Age Girl

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Background: Worm infestation is still a common problem in developing countries, especially among people of low socioeconomic status. What was previously thought to be exclusive of the poor is now also extending to the rich and well-nourished members of society. **Case report:** A three-year-old and four-month-old girl who resides with her parents in Bauchi metropolis was referred to Clinical Microbiology for passing adult worms in the stool since she was nine months old. The worms are many and were scary to the mother.

The child was taken to a Primary Health Care (PHC) in the town and according to the mother was treated with various antihelmintic medications on different occasions, however the treatment failed to resolve the conditions. The problem has persisted through her early and late toddlerhood. Both parents are gainfully employed; the father is a civil servant under federal government while the mother is a civil servant with the state government. On examination, the patient's general condition was satisfactory; three (3) short worms were noticed to be crawling out of her anus and attached to the buttocks. Pictorial evidence of the variety of previous worms passed by the patient was also examined. Stool macroscopy shows two white adult worms creeping sluggishly out of the specimen, each measuring about 3cm in length. Wet mount microscopy revealed oval to round eggs, with features of both the adult worm and ova consistent with *Hymenolepis species*. The pictures brought by the mother were also consistent with both *Taenia species* and *Hymenolepis species*. She was treated successfully with praziquantel 600mg on daily basis for seven days. To ensure total clearance of the parasite, the treatment was repeated two weeks after the initial treatment. No passage of worms in the stool was reported and no ovum of worm was seen on repeat stool wet mount microscopy; these were done on two consecutive occasions one month after repetition of the treatment. **Conclusion:** This case is an iceberg of what might have been going on in the communities. Antimicrobial susceptibility testing (AST) should not be limited to bacteria in this era of antimicrobial resistance (AMR). In unusual cases such as this, conducting susceptibility testing is may guide the right choice of anthelmintic. The technology of genomics and bioinformatics can be employed in the identification, resistance study and possible treatment of recalcitrant

infection if we are to pay serious attention to Neglected Tropical Diseases (NTDs).

Keywords: Mixed, Tapeworm, Taenia, Hymenolepis

CNP-24-008: Assessing the Relationship Between Socio-Demographic Factors and The Prevalence of Intestinal Worms Among Butchers in Port Harcourt Metropolis Nigeria

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Background: Intestinal parasitic infections, particularly helminths, are a significant public health concern globally, with a notable prevalence among individuals in occupations with high exposure to animal products and unsanitary conditions, such as butchers in abattoirs. To determine the relationship between butchers' socio-demographic factors and the prevalence of intestinal worms in Port Harcourt metropolis Nigeria. **Methodology:** The target population recruited in the study were abattoir butchers including males and females aged 18 years and above in all selected abattoirs of the registered abattoirs in Port Harcourt, with inclusion criteria of registered butchers within the Port Harcourt metropolis who are 18 years and above, whereas, butchers who have received anti-helminthic 3 months before the study and those who have not worked at least 6 months in the abattoir were excluded.

Multi-stage sampling was adopted in this research work. A pretested structured interviewer-administered questionnaire was used to collect information on socio-demographic characteristics (age, sex, ethnicity, marital status, level of education, average monthly income, number of living rooms and duration as a butcher, etc.). Participants were educated and given a sterile bottle to collect fecal samples aseptically the next day. **Result:** The general prevalence of intestinal worms was 5.6%, *Ascaris lumbricoides* having the highest prevalence of 60% while Hookworm and *Trichuris trichiuria* had 20% each. Only gender was significantly associated ($p < 0.05$) with the prevalence of intestinal worms, however, other factors such as age, religion, ethnicity, marital status, educational level, job experience, and other jobs were not significantly associated. **Conclusion:** Gender plays a significant role in the prevalence of intestinal helminths among butchers in Port Harcourt Metropolis. *Ascaris lumbricoides* emerge as the dominant parasite, a persistent challenge in global public health.

Keywords: Intestinal worms, Butchers, prevalence, Port Harcourt Metropolis, Abattoirs

Cnp-24-009: Unilateral Prepubertal Gynaecomastia in A 9-Year-Old Boy: A Case Report

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Background: Gynecomastia is uncommon in prepubescent males and typically presents as a bilateral disease. We present a case of unilateral gynecomastia in a 9-year-old boy with elevated serum estradiol and no other hormonal abnormalities. **Case Report:** A 9-year-old boy presented with a six-month history of progressive right breast enlargement. He was born at full term following an uneventful pregnancy, labour, and delivery. His growth milestones were normal, and he had no history of undescended testes, previous surgeries, or hospital admissions. He had normal weight and BMI for age and physical examination revealed unilateral grade 3 gynecomastia (ASPS). Laboratory investigations including serum gonadotropins, thyroid function tests, liver function tests and serum cortisol were essentially within normal reference limits. A slight elevation in oestrogen level was however observed. **Conclusion:** This case highlights diagnostic approaches and etiological considerations for prepubertal gynecomastia. The isolated mild elevation of estradiol in the absence of other abnormalities suggests a possible idiopathic cause, warranting close monitoring and follow-up. Further studies are needed to better understand the mechanisms and appropriate management of isolated estradiol elevation in prepubertal gynecomastia.

Keywords: Unilateral, prepubertal, gynecomastia, Nigeria

CNP-24-010: Non-Hodgkin Lymphoma in a Patient with Chronic Myeloid Leukaemia: An Uncommon presentation of Bi-lineage Malignancy from Federal Teaching Hospital (FTH) Gombe, North-East, Nigeria

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Background: Chronic myeloid leukaemia (CML) is a clonal disorder of Haematopoietic progenitor cells characterized by excessive proliferation of the granulocytic cell lines and the presence of Philadelphia chromosome in over 95% of cases. Non-Hodgkin lymphoma (NHL) on the other hand is a group of histologically and biologically heterogeneous clonal malignant diseases arising from the lymphoid system. CML accounts for 15% of all leukaemias with median age of occurrence 40years (38years in females) in Nigeria. NHL accounts for 85% of lymphomas and has an annual incidence of 5-10 new cases per 100,000 persons. Simultaneous occurrence of the two malignancies is however rare in a single patient and has been reported in younger patients, most of them being males. This is the first case report of a bilineage haematologic malignancy from our centre. **Case report:** We report a 32year old male who presented to our facility with complaints of progressive left-sided abdominal swelling of 7months. Full Blood Count Result and Bone marrow aspiration were in keeping with CML (chronic phase). BCR-ABL testing further confirmed the diagnosis of CML. He commenced treatment with first-line Tyrosine

kinase inhibitor (Imatinib) with initial optimal response. However, two years in to the course of treatment, he represented with fever of one-month duration and generalized lymphadenopathy. On account of these, he had lymph node biopsy, FBC, EUCr, LFT and Blood culture. He was commenced on antimalaria and empiric antibiotics, he however succumbed to the complications of the disease a day after admission. Histology of lymph node biopsy revealed NHL, and immunohistochemistry revealed CD20 positivity. The other results were not remarkable except Blood culture which yielded growth of E.coli sensitive to gentamycin. **Conclusion:** Development of NHL in a patient with CML patient on treatment with TKIs poses a great challenge in management. This case report is not common and underscores the importance of vigilant evaluation of second malignancy among patients on treatment for CML with new or worsening symptoms, and the need for multidisciplinary team approach for better outcome.

Keywords: Chronic myeloid leukaemia; Non-Hodgkin lymphoma; Imatinib.

CNP-24-011: Incidence, Occurrence of Methicillin-Resistant *Staphylococcus aureus* and risk factors for Surgical Site Infection in two selected Hospital in Gombe Northeast Nigeria

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Background: Surgical Site Infections (SSIs) are a significant concern in healthcare settings, especially in Low and Middle-Income Countries. The Infection rate remains on an upward trend due to the paucity of the application of Infection Prevention and Control Measures. Factors associated with the risk of developing SSIs include but are not limited to Obesity, prolonged hospital stay, increased surgery duration, American Society of Anesthesiologists (ASA) score of 3, Smoking, and immunosuppression among others. *Staphylococci* are often the predominant implicating agent in SSIs, However, *Enterococcus* species, *Escherichia coli*, *Klebsiella* species, *Pseudomonas* species, and *Acinetobacter* species also cause SSIs.

Methodology: In this hospital-based prospective longitudinal study, questionnaires were administered to adults who had surgery done, those who developed SSI were evaluated and samples were taken for microscopy culture and sensitivity according to standard procedures and protocol. *Staphylococci* and Methicillin-Resistant *Staphylococcus aureus* (MRSA) were detected using the VITEK2 system. Data was analyzed using the Statistical Package for Social Sciences (SPSS™) version 26.0. **Results:** Of the 402 participants who had surgery performed, 126 (31.3%) were males and 276 (68.7%) were females. A total of 109 had SSI putting the overall incidence at 27.1% (109/402). Stratified incidence of SSI by the hospital was 25.4% and 30.3% for FTH and SSH respectively (OR=1.277; 95% CI=0.81-2.01; $p=0.2936$). 37.6% of the organisms

isolated were *Staphylococcus* species, *Staphylococcus haemolyticus* (34.1%) was the predominant specie followed closely by *Staphylococcus aureus* (29.3%), (75%) of which were MRSA, *Staphylococcus hominis* ssp *hominis* (17.1%), *Staphylococcus epidermidis* (12.2%), while *Staphylococcus lugdunensis*, *Staphylococcus schleiferi* and *Staphylococcus lentus* respectively. Multivariate analysis showed that only Smoking (OR=0.214; 95% CI=0.04-1.05; $p=0.005$ was the independent risk factor for SSI in Gombe.

Conclusion: The incidence of SSI is high in Gombe with a high proportion caused by Staphylococci and MRSA, with several factors associated with the risk of developing SSI,s, however only cigarette smoking was an independent risk factor. This calls for the intensification of SSI surveillance and other IPC measures.

Keywords: Gombe, Incidence, MRSA, Risk Factors, SSI

CNP-24-012: A Case of Abdominal Tuberculosis Masquerading as an Ovarian Neoplasm In A Young Female

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Introduction: Tuberculosis is a highly prevalent infectious disease caused by *Mycobacterium tuberculosis*. Despite the available interventions, it still constitutes a global health challenge around the world. Abdominal tuberculosis can cause a variety of symptoms that are similar to ovarian neoplasm. Although CA 125 is a tumour marker for surface epithelial neoplasms, it has been observed to be elevated in both neoplastic and non-neoplastic ovarian lesions. We report a clinical diagnosed Stage IV Ovarian cancer with carcinomatosis peritonei on exploratory laparotomy which was histologically diagnosed as tuberculosis. **Case Report:** A 27-year-old para 1, 2alive (twin) whose last childbirth was 9 years ago with clinical and imaging features of a complex right ovarian tumor with many peritoneal seedlings including liver and omentum, ascites and elevated CA125 of 177.7ul/ml (0–35). Exploratory laparotomy reveals disseminated intraperitoneal deposits involving the liver, bowel, omentum, right adnexal mass and 3L of straw-colored ascitic fluid. Histopathological analysis of ascitic fluids and omental biopsy reveals granulomata, leading to the diagnosis of necrotizing granulomatous inflammation as seen in abdominal tuberculosis. Special stain for mycobacterium was positive. **Conclusion:** This case report highlights the significance of considering abdominal tuberculosis in the differential diagnosis of advanced ovarian tumour despite radiological and biochemical features of malignancy.

Keywords: Ovarian, Abdominal, Tuberculosis, Tumour

CNP-24-013: Late Onset Muscular Dystrophy in a 42-Year-Old Female – An Unusual Scenario

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Background: Muscular dystrophy is a group of inherited diseases that progressively weaken and degenerate the muscles. The condition affects people of all ages, typically manifesting in the first decade of life in male individuals. To demonstrate the occurrence of late onset muscular dystrophy in a female; an unusual scenario. **Case Report:** A 42-year-old Nigerian woman presented with progressive difficulty walking, frequent falls, and trouble with daily activities like tying a headscarf or getting of bed. She has no issues with speech, swallowing, vision, or bladder/bowel control. Family history was negative for muscular dystrophy in male relatives. Imaging tests were normal. However, blood tests showed markedly elevated creatine kinase levels, indicating muscular damage. A muscle biopsy was performed to confirm the diagnosis. The muscle biopsy revealed muscle fiber degeneration with endomysial fibrosis and replacement with fatty tissue. **Conclusion:** This case highlights the importance of considering muscular dystrophy in the differential diagnosis of progressive muscle weakness, even in older women. A high index of suspicion is necessary for early diagnosis and appropriate management in order improve the quality of life for affected individuals.

Key words: Muscular, Dystrophy, Late Onset, Endomysial

CNP:24-014: Pattern of Cervical Pap Smears in Modibbo Adama University Teaching Hospital, Yola – A 2-Year Review

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Background: Cervical cancer remains a significant health concern, particularly in developing countries like Nigeria. Despite its preventability through regular screening, low uptake and inadequate access to screening services contribute to high morbidity and mortality rates. This study aimed to analyze the pattern of cervical smears and its association with age among women attending a cervical cancer screening center. **Methods:** A retrospective analysis was conducted on data from the cervical cancer screening center at Modibbo Adama University Teaching Hospital (MAUTH) over a two-year period. **Results:** Of the 469 women screened, 186 (39.7%) had abnormal smears. Low-grade squamous intraepithelial lesion (LSIL) was the most common abnormality, followed by atypical squamous cells of undetermined significance (ASCUS). The highest prevalence of abnormal smears was observed among women aged 40-49 years. High-grade squamous intraepithelial lesion (HSIL) was most prevalent in women aged 50 years and older. **Conclusion:** The findings highlight the need for increased awareness and accessibility to cervical cancer screening services. Early detection through regular screening can significantly reduce the burden of cervical cancer. Strategies to encourage women, especially those in high-risk age groups, to undergo regular screening are crucial.

Keywords: Cervix, Pap Smear, Screening, Yola, Nigeria

CNP-24-015: Prevalence and Correlates of Adolescent Obesity Among Young Adults in South-Western Nigeria

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Background: The prevalence of adolescent obesity has significantly increased globally and comorbidities such as hypertension, dyslipidaemia, impaired glucose metabolism, and poor self-esteem, polycystic ovarian syndrome have been linked to it. Adiposity rebound in early childhood has been identified as a predisposing factor to obesity. The global prevalence of adolescent obesity has significantly increased over the past three decades, especially in the developed world, but an increasing trend has also been noticed in developing countries. With no intervention, these co-morbidities, as well as obesity, usually continue into adulthood, which can result in premature death. Despite increased awareness and attempt to address obesity, the prevalence of adolescent obesity remains high, with significant implications on physical and mental health, social wellbeing and risk of chronic disease. The study aims to determine the prevalence of adolescent obesity among young adults in southwest Nigeria as well as its associated correlates and comorbidities.

Methodology: The study was a cross-sectional survey. A systematic sampling technique was used to select the participants. A self-administered, structured questionnaire was used to collect data on socio-demographics and the level of physical activity. The participants also had their anthropometry, blood pressure and fasting plasma glucose measured and the body mass index (BMI) of all the respondents was computed. Venous blood was taken from each participant to determine Plasma glucose levels. Data Analysis was done using SPSS 23. Statistical tests of association and correlation were used as appropriate. The confidence interval was set at 95%. Statistical significance was considered at a p-value of less than 0.05.

Results: 300 undergraduates consisting of 180 (60.0%) males and 120 (40.0%) females between 14-19 years (median age 17 years) were recruited. Most of the participants had normal blood pressure (255; 85.0%), fasting blood glucose (285; 95.0%) and body mass index (191; 63.7%) readings. 34 (11.3%) were obese, while 67 (22.3%) were overweight. Also, 8 (2.7%) participants had hypertension, while 37 (12.3%) had pre-hypertension. Furthermore, 15 (5.0%) subjects had impaired blood glucose levels and none of the participants had fasting blood glucose readings to suggest diabetes mellitus. There were 76 (25.3%) participants with abdominal obesity. BMI status was significantly associated with their age, sex and abdominal obesity. Among the 34 obese patients, 3 had impaired blood glucose, 4 had pre-hypertension and only 2 had hypertension. Similarly, among the 67 overweight participants, only 2 had impaired blood glucose, 13 had pre-hypertension and 3 had hypertension. None of the hypertensive participants engaged in any form of exercise.

Conclusion: In this study, the prevalence of obesity was 11.3%, while that of impaired glucose tolerance, pre-hypertension and hypertension were 5%, 12.3% and 2.7%

respectively. The obese participants had significantly higher diastolic blood pressure and fasting blood glucose levels than those who were not obese. Also, participants who engaged in exercises, especially jogging, did not have hypertension and negligible number had pre-hypertension. Thus, we recommend that distance between hostels and classrooms should encourage regular walking, jogging or occasional running to maintain normal blood pressure and deter obesity.

Keywords: Adolescent, Obesity, Comorbidities, Risk Factors

CNP-24-016: Comparative Analysis of Adjusted Calcium and Free Ionized Calcium in Patients with Hypocalcemia and Hypercalcemia

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Background: Calcium is essential for numerous physiological functions, existing in two key forms in the bloodstream: total calcium (both bound and unbound) and free ionized calcium (the biologically active form). While total calcium is commonly measured in clinical settings, free ionized calcium offers a more precise reflection of calcium homeostasis. This study seeks to evaluate and compare the clinical value of both total adjusted calcium and free ionized calcium levels in diagnosing and managing calcium disorders, such as hypocalcemia and hypercalcemia, among symptomatic patients. **Method:** This cross-sectional study involved 166 patients

presenting with clinical signs and symptoms of hypocalcemia or hypercalcemia. Serum levels of albumin were determined by bromocresol green method, total calcium was estimated using O-cresolphthalin complexone method, free ionized calcium and bicarbonate were measured using ion selective electrode. In clinical practice free ionized calcium is best option with a normal reference range of 1.1 to 1.3mmol/L, according to literature. The normal reference range of adjusted calcium is 2.2 to 2.6mmol/L and obtained with the formula; measured calcium (mmol/L) + {0.02 × (40 - measured albumin (g/L))}. Descriptive statistics, including the mean and standard deviation of calcium levels, were calculated for the entire cohort. Correlation analyses between adjusted and ionized calcium were conducted, with subgroup analyses based on age, gender, and comorbidities. Statistical significance was determined using appropriate tests, with p-values < 0.05 considered significant. **Results:** The participants in the study had an average age of 52 ± 18 years. Of the 166 patients, 45% were diagnosed with hypocalcemia, while 55% had hypercalcemia. Albumin levels were within the normal range for most of the patients. In the hypocalcemic group, the mean free ionized calcium level (0.9 ± 0.6 mmol/L) was significantly lower than that of patients with hypercalcemia (1.9 ± 0.9 mmol/L). The average adjusted calcium levels were 1.1 ± 0.9 mmol/L in the hypocalcemic group, below the normal reference range, and 3.1 ± 1.1 mmol/L in the hypercalcemic group. A strong correlation was observed between adjusted calcium and ionized calcium levels, with Person's correlation r-values of 0.81 in the hypocalcemic group and 0.75 in the hypercalcemic group. Additionally, patients with hypercalcemia had significantly lower bicarbonate levels (p < 0.01). Patients over the age of 60 showed notable discrepancies between adjusted total and ionized calcium levels. **Conclusion:** The study

demonstrates that free ionized calcium is a reliable indicator of calcium disorders, so also adjusted total calcium, particularly in diagnosing hypocalcemia and hypercalcemia. The findings show strong correlation between adjusted calcium and ionized calcium in both groups, though there were discrepancies noticed in older patients. In the hypocalcemic group, free ionized calcium levels were significantly lower than adjusted calcium levels.

Keywords: Adjusted Calcium, Free Ionized Calcium, Hypocalcemia, Hypercalcemia

CNP-24-017: Gossypiboma – Varying Faces of an Iatrogenic Complication

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Background: Gossypiboma (textiloma; cottonoid) is an iatrogenic complication of surgical intervention where a foreign material such as gauze, cotton or sponge is unintentionally left back in the patient's body after surgery. Its presentation is highly variable ranging from being asymptomatic to mimicking a malignancy with much degree of morbidity and rarely mortality. Although seldom reported due to potentials of medico legal litigation, proper reporting leads to better surgical

techniques and protocols to avoid these complications. We aim to review cases of gossypiboma received at a pathology department in a surgical pathology audit.

Methodology: This is a retrospective review of all pathology reports between January 2019 and September 2024 from the records of the Department of Histopathology, Federal Teaching Hospital, Gombe. Clinical details were retrieved from the surgical pathology request forms and case notes of these patients (from referring centres). The original slides or new slides prepared from blocks of paraffin-embedded tissues were reviewed. **Results:** Four cases of gossypiboma were identified. All cases were from referral hospitals, two of which were governmental secondary health care facilities which the other two were private centres. There were 3 females and one male. All females had intraabdominal surgeries (a caesarian section and two ovarian cystectomies). The male had a hydrocelectomy a month prior presenting with a huge scrotal mass with a clinical diagnosis of high-grade sarcoma. One presented with intestinal obstruction while the two others had features of cystic ovarian mass. **Conclusion:** Both sexes are affected by gossypibomas but more common in females. They follow intraabdominal surgeries in most cases and give varying time intervals before presentation. Clinically, they could mimic malignancies.

Keywords: Gossypiboma, Surgical, Pathology, Audit

CNP-24-018: Clinical Correlates of Thrombospondin-1 (TSP-1) in Sickle Cell Anaemia Patients in Northwestern Nigeria

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Background: Thrombospondin-1 (TSP-1) is a glycoprotein with multiple functions involved in the pathophysiology of sickle cell anaemia (SCA), contributing to vascular complications such as endothelial dysfunction, inflammation, and vaso-occlusion. Despite its established role, the clinical correlations of TSP-1 in SCA patients remain largely unexplored. This study aims to investigate the clinical correlates of TSP-1 in SCA patients during vaso-occlusive crises (VOC) and steady-state (SS) conditions, providing insights into its role in disease severity. **Methods:** This cross-sectional study was conducted at Ahmadu Bello University Teaching Hospital Zaria from July to December 2022. A total of 80 individuals with SCA, consisting of 40 in VOC and 40 in SS were recruited. Clinical data, including age, frequency of bone pain episodes, number of transfusions, hospital admissions, and numeric pain scores, were collected. Spearman's correlation was used to assess the relationship between TSP-1 and the clinical variables, with statistical significance set at $p \leq 0.05$. **Results:** In VOC patients, there was a statistically significant positive correlation between TSP-1 and numeric pain scores ($r_s = 0.41$, $p = 0.01$). No significant associations were observed between TSP-1 and other clinical variables such as age, annual frequencies of bone pain episodes, transfusions, or hospital admissions in patients with VOC. In SS patients, TSP-1 showed a weak non-significant positive correlation with age ($r_s = 0.27$, $p = 0.09$) and annual bone pain frequency ($r_s = 0.25$, $p = 0.12$). Similarly, no significant correlations were observed between TSP-1 and the annual

number of transfusions or hospital admissions in the SS group. **Conclusion:** TSP-1 was significantly correlated with pain severity during vaso-occlusive episodes, underscoring its potential role in pain modulation. This finding suggests that TSP-1 may serve as a valuable biomarker for pain severity during vaso-occlusive pain episodes.

Keywords: Thrombospondin-1, Sickle Cell Anaemia, Vaso-Occlusive Crisis, Biomarkers, Pain Modulation, Clinical Parameters.

CNP-24-019: Antibigram of Biofilm-Producing Bacteria Isolated from Service Water in Tertiary Hospitals in Rivers State, Nigeria

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Background: Service water in hospitals can serve as a reservoir for biofilm-producing bacteria, posing a significant public health risk, especially in tertiary care facilities where patients are more susceptible to infections. These bacteria thrive in service water, contributing to persistent infections and increasing the likelihood of antibiotic resistance. In Rivers State, Nigeria, maintaining high water quality in tertiary hospitals is a persistent challenge. This study focuses on the antibiogram of biofilm-forming bacteria in hospital water systems, aiming to inform water quality management practices and reduce the incidence of waterborne infections.

Methodology: The study sought to identify the types of biofilm-producing bacteria present in hospital service water and assess their antibiotic resistance profiles. Over a three-month period, 135 water samples were collected from key hospital areas, including water sources, theater, gynecology wards, emergency units, and laboratories. Sterile specimen containers were used for sample collection, and standard microbiological techniques were employed to characterize the bacterial isolates. **Result:** The study identified 12 bacterial genera: three Gram-positive species (*Staphylococcus*, *Bacillus*, and *Enterococcus*) and nine Gram-negative species (*Escherichia*, *Proteus*, *Salmonella*, *Enterobacter*, *Pseudomonas*, *Serratia*, *Shigella*, *Klebsiella*, and *Providencia*). Among these, biofilm production was observed in 100% of *Shigella*, *Staphylococcus*, *Bacillus*, *Escherichia coli*, *Pseudomonas*, and *Salmonella* isolates. *Providencia* (90%), *Serratia* (84%), *Proteus* (80%), *Enterococcus* (72.7%), *Enterobacter* (74.4%), and *Klebsiella* (37.5%) also demonstrated biofilm formation. Antibiotic susceptibility testing revealed significant variation in resistance patterns, with many biofilm-forming isolates exhibiting multidrug resistance. However, the antibiogram indicated that Ofloxacin and Nitrofurantoin could be effective against certain biofilm-producing bacteria found in hospital service water. **Conclusion:** This study highlights the occurrence of antibiotic-resistant, biofilm-forming bacteria in hospital water systems, emphasizing the urgent need for enhanced infection control protocols. It is recommended to improve aseptic practices, upgrade plumbing systems, and establish regular water treatment procedures at the source to reduce the risk of waterborne infections in tertiary hospitals.

Keywords: Service Water, Biofilm Producing Bacteria, Resistance, Antibiotics

CNP-24-020: Awareness and Practices Regarding Antimicrobials in a Semi-Urban Population in Rivers State, Nigeria

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Introduction: Antimicrobial agents are vital for the management of infectious diseases; however, their widespread abuse and misuse have been noted to contribute to antimicrobial resistance. The study assessed the awareness and practice regarding antimicrobials among residents of Abonnema, a semi-urban community in Rivers State, Nigeria. **Methodology:** A cross-sectional descriptive study carried out between May- July 2023 among adults ≥ 18 years who gave consent. The research instrument was a semi-structured questionnaire which assessed participants' awareness of antimicrobials and their usage patterns particularly source, route, adverse effects, expiry dates and compliance. Data was analyzed using SPSS version 22.0. **Results:** Of the total 252 respondents. Majority were aged 10-30 years (46.0%), were female (52.4%) and had heard of antimicrobials (95.2%). Whilst 19.4% reported never taken any antimicrobials, 91.3% usually took more than one antimicrobial in combination. The majority 89(35.3%) of antibiotic prescriptions were from patent medicine dealers. Other sources include doctors 62(24.6%), nurses 42(16.7%), pharmacists 18(7.1%), self-prescribed 8(3.2%),

and combination of the above in 33(13.1%). On the routes of administration, 42.1% reported having taken orally, 7.1% intramuscularly, 0.8% intravenously, 1.2% topically while 48.8% had taken via multiple routes of administration. Sadly, 1.6% of respondents reported taking antimicrobials on a regular basis. 20.6% reported not being adequately educated by prescribers or dispensers; however, when educated by the prescriber or dispenser, majority (66.3%) complied with prescription(s). Most (61.5%) usually checked for expiry date of the drugs and 30.2% had experienced at least one adverse effect of antimicrobials. **Conclusion:** Patent medicine dealers are a major source of antimicrobials in semi-urban or rural settings in Nigeria; therefore, it is important to direct antimicrobial stewardship efforts to this population as well as the general community, as part of efforts to reduce the menace of antimicrobial resistance. Adequate Patient education by prescribers and dispensers is also critical to prevent antibiotic misuse.

Keywords: Antimicrobials, Awareness, Practice, Stewardship, Nigeria

CNP-24-021: Histopathological Patterns of Orbito-Ocular Lesions at University of Maiduguri Teaching Hospital: A Five-Year Retrospective Review and Update

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Background: The incidence of various eye diseases in a community or area varies with the social and environmental factors, Orbito-ocular diseases are responsible for prodigious morbidity with estimated 2.2 billion people with visual impairment globally and the leading causes of visual impairment are refractive errors and cataract, others include diabetes retinopathy, glaucoma and degenerative changes. Mortality from primary ocular diseases is very rare, however, malignancies involving the orbit are responsible for most of the mortality especially among paediatric age group. In Nigeria, an estimated 4.25 million adults have visual impairment and there are more cases in Northeastern region than other geopolitical zone of the country. We present a 5-year retrospective survey of orbito-ocular lesions in our environment. The aim is to give an update on histopathological patterns of the diseases. **Methodology:** The study is retrospective, cross-section, descriptive and analytical in design. All cases of orbito-ocular tumours, where available, from January 2015 to December 2020 at the Histopathology Department of University of Maiduguri Teaching Hospital are documented. Non-probability purposive method of sampling was adopted. The data was analysed using SPSS version 23. P values of <0.05 were considered statistically significant. Chi-square test was used to analyse the association between categorical variables. **Result:** Thirty-nine cases of orbito-ocular tumours were retrieved over a five-year period, the age ranges from 1 to 70 years. Most of the lesions (41%) were found in children between 1-10 years age group. The mean age was 24.25 ± 3.3 . The male to female ratio was 1:0.8. Malignant tumours account for 41.9% of all the lesions while 58.1% were benign tumours. The common site of orbital lesions was the conjunctiva (55.9%), followed by intraocular lesions (24.7%). About 50% of

the lesions of the orbit were inflammatory tumours accounting for 33.3% of all the lesions. Squamous cell carcinoma was the commonest malignancy of the conjunctiva accounting for 25%. Retinoblastomas formed 95.7% of the intraocular malignant tumours. There are no association between gender and age ($p=0.699$), Association exist between the various diagnosis with age group and site of the lesions ($p=0.001$). **Conclusion:** Retinoblastoma is the commonest intraocular malignancies in children and Squamous cell carcinoma was the commonest malignancy of the conjunctiva. In our environment inflammatory tumours are the commonest orbital lesions that draw patient attention to seek for treatment.

Keywords: Retinoblastoma, Orbit, Conjunctiva

CNP-24-022: Cutaneous Echinococcosis Mimicking an External Angular Dermoid Cyst: A Rare Manifestation in a Quinquagenarian Male

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Introduction: Hydatid disease or Echinococcosis caused by the larval form of the cestode *Echinococcus granulosus* is an

endemic zoonotic infection. Cystic echinococcosis presents mostly in the liver and lungs and rarely in the brain, bone, kidneys, muscle and spleen. Although Echinococcus infestation is prevalent in developing countries, primary hydatid cyst occurring in the subcutaneous tissue remains an uncommon finding in Nigeria. Based on our search, there were only twenty-two cases of subcutaneous echinococcosis documented in the literature, of which only three were in the head and neck region. The index case is the fourth, hence the need to present this rare condition. **Case Report:** We report a 50-year-old Man who presented with 10-year history of slow growing right sided facial swelling around temporal region. The swelling was set to be painless. A diagnosis of dermoid cyst was made based on clinical examination. A complete surgical excision of the mass was performed, and the patient had an uneventful postoperative period. Histological diagnosis of hydatid cyst was made based on the findings of a cystic cavity containing structures with laminated membrane harboring round to ovoid structures containing hooklets consistent with a hydatid cyst. Chemotherapy with anthelmintic was administered. **Conclusion:** A subcutaneous hydatid cyst is a rare condition that should be considered in the differential diagnosis of cystic lesions, particularly in areas where hydatid disease is prevalent. The preferred treatment approach for this condition is complete surgical excision of the mass without rupturing it.

Keywords: Echinococcosis, Hydatid Cyst, Face, Dermoid

CNP-24-023: Molecular Detection of Metallo-Beta-Lactamase (VIM And IMP) Genes from Carbapenem-Resistant Pseudomonas Clinical Isolates in A Tertiary Hospital in Gombe, Northeast, Nigeria

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Background: Carbapenems are a class of antibiotics that are mainly used in the treatment of multidrug-resistant *Pseudomonas* infections. The major cause of concern is the emergence of Carbapenem-resistant *Pseudomonas* worldwide, especially due to the production of hydrolyzing enzymes known as Metallo-beta-lactamases (MBL) causing serious challenges in managing these infections. Despite the threat posed by the carbapenem resistance, there is still little, or no attention paid to the prevalence of carbapenem resistance and the genes responsible for the resistance in Northeast, Nigeria. This study aimed to determine the prevalence of Carbapenem resistance, and detect the presence of Metallo-beta-lactamases (VIM and IMP) genes from clinical isolates in Federal Teaching Hospital, Gombe.

Methodology: This is a descriptive laboratory-based study, in which 154 non-duplicate clinical isolates of *Pseudomonas* from different specimens were collected and identified using the analytical profile index (API-20E). Antibiotic susceptibility testing was done using the Kirby Bauer disc diffusion method based on the clinical laboratory standard institute 2023 document (CLSI). Carbapenem-resistant isolates were screened for Metallo-beta-

lactamase (VIM and IMP) genes by conventional polymerase chain reaction (PCR), and the genes were detected using electrophoresis. **Results:** Among the 154 *Pseudomonas* species isolates, the prevalence of Carbapenem resistance was 38 (24.7%), and electrophoresis of the PCR products for Metallo-beta-lactamases genes, 16 (42.1%) VIM gene the IMP gene could not be detected among all the 38 CR *Pseudomonas* isolates. **Conclusion:** There is a relatively high prevalence of CR *Pseudomonas* in Gombe, Northeast, Nigeria, majority of the isolates demonstrated the presence of VIM genes while no IMP genes were detected among all the isolates. These findings indicated the alarming spread of CR *Pseudomonas* isolates and suggest the need for adequate infection prevention, and control measures to be put in place in order to mitigate this menace.

Keywords: Carbapenem, Resistance, Metallo-beta-lactamase, Gombe

CNP-24-024: Disseminated *Neisseria gonorrhoeae* Infection: A Rare Case Report Of Urethritis-Arthritis Syndromes in Gombe, Northeast, Nigeria

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Background: *Neisseria gonorrhoeae* is an aetiological agent of sexually transmitted infections (STIs) called gonorrhoea. Disseminated gonococcal infection (DGI)

seldom occurs, it usually results from hematogenous spread and can lead to various clinical manifestations, such as dermatitis, epididymal-orchitis, tenosynovitis, arthralgia, and arthritis. **Case report:** A 49-year-old male who is a known retroviral disease (RVD) patient on highly active retroviral therapy (HAART), was referred to the Special Treatment Clinic (STC) from the General Outpatient Clinic (GOPC) of the Federal Teaching Hospital Gombe with complaints of a whitish urethral discharge, painful scrotal swelling, and urethral pain for a one (1) month duration, and two (2) weeks history of joint pain and swelling. He reported having unprotected sex with multiple sexual partners in the last 3 months. Urethral swab and joint aspirate microscopy, culture, and sensitivity confirmed disseminated multi-drug-resistant *N. Gonorrhoeae* infection. He was placed on intravenous ceftriaxone for one week and a single oral dose of azithromycin with full recovery before he was referred to the rheumatology clinic on account of features of osteoarthritis seen on X-ray. The results of both the urethral swab and joint aspirate microscopy, culture, and susceptibility showed Gram negative intracellular diplococci, and cultures yielded the growth of *Neisseria gonorrhoeae* susceptible to ceftriaxone, ciprofloxacin while resistant to azithromycin and cefixime. X-ray of both the knees showed spiking of the intercondylar eminences bilaterally which are in keeping with early osteoarthritis of the knee. **Conclusion:** This case report is aims to draw the attention of clinicians on the need of active surveillance of this infection, and to educate them on the clinical manifestations of this condition.

Keywords: Disseminated Gonococcal Infection, Osteoarthritis, Epididymal-Orchitis, Gombe.

CNP-24-025: Species Distribution, and Antibiotic Susceptibility Patterns of *Pseudomonas* Species Isolated from Clinical Samples at a Tertiary Healthcare Facility in Northeast, Nigeria

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Background: *Pseudomonas* species are ubiquitous in nature, they are pathogens of concern due to their involvement in hospital-acquired infections (HAIs), and associated mortality and morbidity. Because of the increase in incidence of multi-drug resistance *Pseudomonas* globally, and the significant public health threat pose by these organisms, they are listed as part of the world health organizations (WHO) critical priority pathogens. This study aims to determine the prevalence of different species of *Pseudomonas*, and antibiotic susceptibility pattern in clinical isolates from the Federal Teaching Hospital, Gombe (FTHG). **Methodology:** A laboratory-based prospective study, a total of one hundred and fifty-four (154) non-duplicate isolates of *Pseudomonas* from different specimens were collected and identified using the analytical profile index (API-20E), Kirby Bauer disc diffusion method based on Clinical Laboratory standard institute

document was used for antibiotics susceptibility testing. **Results:** Out of the 154 isolates, (87.0%) were *Pseudomonas aeruginosa*, (8.5%) *Pseudomonas fluorescens*, and the remaining (4.5%) were *Pseudomonas putida*. The results of the antibiotics susceptibility showed that 105 (68.2%) were susceptible to meropenem, 96 (62.3%) to ciprofloxacin, 86 (55.8%) to ceftazidime, 76 (49.4%) to cefepime and 75 (48.7%) piperacillin-tazobactam and 74 (48.0%) susceptible to amikacin. **Conclusion:** *Pseudomonas aeruginosa* is the most predominant specie isolated in this study. There is a relatively high level of antibiotic resistance among the isolates studied especially among aminoglycosides. The results in this study can be used to predict the susceptibility pattern of *Pseudomonas* to antibiotics, and to select antibiotics for empiric therapy among critically ill patients in Gombe, and to plan for surveillance of antibiotics-resistance in FTHG.

Keywords: Pseudomonas, specie-distribution, antibiotic susceptibility

CNP-24-026: Risk Factors and Prevalence of Sars-Cov-2 Among Patients Attending Federal Teaching Hospital Gombe

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Background: *Sars-Cov-2* is implicated in the COVID-19 pandemic which was declared on 11th March 2020. The disease has ravaged a lot of countries, with a mortality of more than 6.5 million and over 700 million cases globally as of 6th March 2023. Even though covid-19 presents mostly with respiratory symptoms, various studies, and meta-analyses have various spectrums of the clinical picture of covid-19 and the evaluation of *Sars-Cov-2* in resource-limited settings is difficult, due to the requirement of molecular technique that is relatively more expensive for final diagnosis, additionally there is dearth of published research on Covid-19 from Northeast Nigeria.

Methods: This cross-sectional study evaluated various specimens comprising of Stool, Serum, and Nasopharyngeal swabs of 384 patients admitted in various wards of Federal Teaching Hospital Gombe with no known history of *Sars-Cov-2* infection or clinical COVID-19 diagnosis, using Reverse transcriptase-Polymerase chain reaction (RT-PCR) to detect at least two genes from region of specific structural Spike (*S*), Envelope (*E*), Nucleocapsid (*N*) genes and the non-structural RNA dependent RNA polymerase (*RdRp*) and replicase open reading frame (*ORF*), to understand their diagnostic, clinical and epidemiologic utility in Covid-19. To predict risk factors of *Sars-Cov-2*, the Socio-demographic, health status, and comorbid conditions of the patients were assessed.

Results: The prevalence of *Sars-Cov-2* in both Stool and NPS were low, 1.8 %, and 0.8 % respectively, high antibodies to *Sars-Cov-2* were 48.6 % despite low vaccine uptake.

Conclusion: The study demonstrated the presence of *Sars-Cov-2* in specimens other than respiratory specimens and the presence of high antibodies despite low vaccine uptake, a pointer towards herd immunity being achieved.

Keywords: Sars-Cov-2, multiple samples, risk factors

CNP-24-027: Prevalence and Molecular Characterisation of Carbapenemase Producing *Pseudomonas Aeruginosa* from Wound Infections in Zaria, Northwestern Nigeria

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Background: *Pseudomonas aeruginosa* is a common opportunistic pathogen implicated in healthcare associated infections like burns and other wound infections. They are multi drug resistant organisms capable of evading antimicrobials through several mechanisms including the production of several carbapenemase genes which inactivate carbapenems. Treatment of infections caused by this multidrug resistant organism is challenging. Effective infection prevention control measures and antimicrobial stewardship are important in curtailing the menace of infections caused by these organisms. The aim of this study was to identify the prevalence of carbapenemase producing *Pseudomonas aeruginosa* causing wound infections in Zaria and characterize the resistant genes. **Methodology:** This was a prospective cross-sectional hospital-based study, carried out from November 2022 to April 2023. A total of 204 patients from three referral hospitals in Zaria with wound infections were recruited, tissue biopsies were taken and cultured. Identification

of isolates was done using the Microbact 24E, while antimicrobial susceptibility testing was done using the modified Kirby Bauer method according to the 2022 version of Clinical and Laboratory Standards Institute (CLSI). Polymerase Chain Reaction (PCR) was used to detect resistant genes. **Results:** The prevalence of wound infections caused by *Pseudomonas aeruginosa* was 19.1%. Resistance to meropenem was found in 10.3% of the *Pseudomonas aeruginosa*, susceptibility to amikacin, piperacillin/tazobactam, gentamicin, ciprofloxacin, aztreonam and ceftazidime were 92.3%, 76.8%, 66.6%, 56.4%, 46.2% and 43.6% respectively. The prevalence of VIM, NDM and OXA-51 was found to be 10.3%, while that of KPC was found to be 5.2%. **Conclusion:** This study found *Pseudomonas aeruginosa* as the predominant organism causing wound infection in Zaria. VIM, NDM and OXA-51 were the predominant carbapenemase resistant genes, while KPC was detected in 5.2% of the isolate

Keywords: *Pseudomonas*, carbapenemase, meropenem, wound infection

CNP-24-028: Deep Transfer Learning for Leukaemia Classification: A Comparative Study of Convolutional Neural Network Architectures

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Introduction: The use of Artificial Intelligence (AI) has significantly impacted various fields,

including healthcare. Machine learning and deep learning are subsets of AI that have been successfully implemented in various fields, including healthcare. This pilot study commenced in 2020 aims to use AI in pathology diagnosis, specifically in histological and haemato-pathological conditions. The proposed solution involves the use of deep learning algorithms in computer vision to automate the diagnosis process.

Methodology: A dataset of 1,962 images was used. Pre-trained Convolutional Neural Network (CNN) models were fine-tuned to perform feature extraction and image classification data preprocessing pipeline was implemented that included resizing the images, normalization, and augmentation techniques for handling class imbalance and making the model more generalizable. The performance comparison of the models was done based on their performance measures. **Results:** The highest accuracy was

achieved by InceptionV3, which had 95.89% accuracy, a loss of 0.0975, an AUC of 0.9977, and high precision and recall, 95.88% and 95.64%, respectively. VGG16 performed similarly in terms of accuracy, 95.89%; however, the loss was higher due to its dependency on the depth of feature extraction and generalization capability. InceptionResNetV2 worked the best, giving 92.82% accuracy and an AUC of 0.9879. AlexNet significantly lagged behind with an accuracy of 75.64% and an AUC of 0.9431, showing its weakness when facing such a complex dataset of leukaemia. **Conclusion:** These results indicate the success of deep transfer learning in classifying leukaemia. This pilot has set the ground for future work involving validation of these models in real clinical settings, extending to larger datasets and more leukaemia subtypes.

Keywords: Deep Transfer Learning, Neural networks, Leukaemia, Classification