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AT THE

**UNIVERSITY OF CALABAR
CROSS RIVERS STATE**

ORAL PRESENTATIONS

ASN/ASC/19/001

Teratogenic Effect of *Lerhacacig* on the Kidney and Liver of Developing Fetus of Wistar Rat (*Rattus norvegicus*)

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ABSTRACT

Pregnancy is a condition associated with immense physiological alterations which is usually discomforting, and to alleviate this most women from the south western part of Nigeria depends on *Lerhacacig* (*Agbo Oloyun*) a local herbal concoction, made of five different plant products (*Cissus Populnea*-CP, *Gongronema Latifolium*-GL, *Rhaphostylis beninensis*-RB, *Carpolobia Lutea*- CL and *Lecaniodiscus Cupanioides*- LC) to alleviate vomiting, nausea, hypertension in pregnancy amongst others. Twenty-five (25) healthy adult female rats weighing between 150-200g were used for the study, they were mated and subsequently the rats were randomly divided into four groups (A-D) of five rats each. Group A- (CP + GL + RB - T1); Group B- (LC + CL - T2); Group C- (RB + CP + CL + LC + GL - T3); Group D - Control. Group A-C (experimental group) received 0.8ml/kg/BW of the extract per-day for 21 days. On day 21, three (3) animals were selected randomly from each group and sacrificed while the other two (2) mothers delivered naturally. The kidney and the liver were harvested, weighed and processed for general and special histologic analyses. There was no significant increase found in the fetal measurement (Crown rump length, head circumference, humeral and femoral length) across the experimental groups. In group 3, which served as combinatorial therapy, it revealed that 1 fetus (male) from one mother presented with Unilateral Renal Agenesis (URA). Another mother from the same group presented with fetal resorption, in which six resorption sites were observed. On observation of the histo-architectural structure of the kidney and the liver within the experimental group, there appeared some pathologic changes within the said groups, while the control appeared normal. In conclusion, the combined extract of *lerhacacig* could be considered teratogenic as observed in this study.

Keywords: Teratogenicity, *Lerhacacig*, resorption, Unilateral renal agenesis.

ASN/ASC/19/002

Auricular Parameters: A Tool for Ethnicity, Facial and Gender Determination and Height Estimation

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ABSTRACT

The human ear is an important and under-recognized defining feature of the face whose shape conveys information about age and sex. Therefore the aim of this study was to establish that auricular parameters can be used as a tool for facial, ethnic and gender determination and also height estimation. A total number of 300 serving corps members in Enugu North L.G.A., consisting of 150 males and 150 females. The study subjects comprised of 100 volunteers from each of the 3 major ethnic groups in Nigeria: Igbo, Yoruba and Hausa. Method of data collection was purposive sampling method. Anthropometric parameters like height, right and left ear length and breadth, right and left lobular length and breadth based on gender and ethnicity were observed while facial parameters like nasal length and breadth, lip length and facial height were observed. An inclusion and exclusion criterion was considered in this study. The mean and standard deviation for these parameters was derived using descriptive analysis. Significant differences ($P < 0.05$) in ear length, breadth, lobular length and breadth based on gender were observed. Significant differences ($P < 0.05$) in sexual dimorphism in some facial parameters were observed. Significant positive correlations between height and lip length and also between height and nasal length were observed. The facial parameters of males predominated over females except for nasal length. Significant positive correlations between

facial parameters, auricular parameters and sex among the three ethnic groups were observed. Significant differences ($P < 0.05$) in right and left ears and lobular length and breadth based on gender and ethnicity was observed among the Igbos when compared to other ethnic groups. No correlation between auricular parameters and body height among the 3 ethnic groups. Auricular parameters are good predictors of ethnicity, facial and gender determination but not height estimation.

Keywords: Lobular length, nasal length, lip length, ethnicity, facial and gender determination.

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ASN/ASC/19/003

Digital Nail Configuration and Facial Parameters: An Indices for Personal Identification and Sexual Dimorphism among the Igbo Residents in Enugu Metropolis

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ABSTRACT

Anthropometry is an important tool for measurement on the living as well as the dead. The techniques are used by anthropologist to estimate body size for the purpose of identification. The aim of this study was to establish the relationship between digital nail configuration and facial parameters as indices for personal identification and sexual dimorphism among the Igbo residents in Enugu Metropolis. A total number of three hundred and eighty five (385) people consisting of 163 males and 222 females between the ages of 18-60 years were used for this study. Anthropometric parameters like Height, digital nail parameters like finger length and width, finger nail length and width and finger nail shapes based on gender were measured for both hands while facial parameters like facial height, facial width, nasal length and width, binocular width, mouth length and width were measured. An inclusion and exclusion criterion was also considered in this study. The mean and standard deviation for these parameters was derived using descriptive analysis. Significant differences ($P < 0.05$) in male facial, finger and fingernail parameters were observed. Significant differences ($P < 0.05$) in right finger length and width was observed. Significant difference ($P < 0.05$) in facial parameters based on gender was observed. Significant difference ($P < 0.05$) in right and left finger length and width based on gender was observed. Significant correlations of some selected facial parameters to stature were observed except in parameters like facial width, nasal length and mouth length. The predominant nail shape based on gender was the vertically long while Regression formula was derived from the various relationships. In conclusion, relationship between stature and parameters like finger length, width and some facial parameters had positive correlations. Therefore, this study showed that finger and facial parameters are good predictors of stature among Igbo residents in Enugu metropolis.

Keywords: Digital nail configuration, gender, facial parameters, finger, fingernail parameters, stature, Igbo residents.

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ASN/ASC/19/004

The Effects of Ranitidine on Radiation–Induced Neurotoxicity in Wistar Rats

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ABSTRACT

Ranitidine is an antihistamine drug and potent hydroxyl-radical scavenger known to possess neuroprotective and radioprotective effects. This study was conducted to examine the potential radioprotective effects of ranitidine on reducing gamma radiation–induced brain damage in *Wistar rats*. Thirty-two young male *Wistar* rats, about 150g were randomized into 4 groups, A, B, C and D (n=8). Group-A received 0.2 ml/kg saline intraperitoneally (IP) once daily throughout the study; Group-B, 0.2 ml/kg ranitidine IP once daily for 7 days; Group-C, 0.2 ml/kg saline IP once

daily for 7 days and exposed to 2gy (gray) gamma radiation on 8th day; Group-D, 0.2 ml/kg ranitidine IP for 7 days and exposed to 2gy gamma radiation on 8th day. Behavioural tests were carried out and fixed brain tissues were processed with H&E and Golgi staining technique. Data were analyzed using ANOVA at $\alpha 0.05$. Radiation significantly reduced percentage organ and body weight changes, transitions, and forelimb grip strength compared with control group, whereas treatment with RAN significantly ($p < 0.05$) increased these parameters, evident in RAN+RAD group. Rats in the RAN+RAD group had their histology considerably improved compared with those of RAD ONLY group. Golgi staining revealed diminished arborizations of basal dendrites and loss of dendritic spines in pyramidal neurons of irradiated rats compared to control. In conclusion, ranitidine reversed behavioural changes and demonstrated neuroprotection against radiation-induced microanatomical alterations of cerebellar, hippocampal and cerebral neurons.

Keywords: Gamma radiation, Ranitidine, Golgi staining, Pyramidal neurons, Neurotoxicity.

ASN/ASC/19/005

Anthropometric Evaluation of Hand Proportions and Hand Index in A Young Nigerian Population

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ABSTRACT

Hand tool design must take into consideration the variations in human hands. Studies have established that body proportions differ from one population to another across ethnic, racial and gender divides. This makes hand anthropometry very essential in hand tool design and forensic anthropology amongst others. Nigeria has a large population consisting of diverse ethnic groups but very little studies have been conducted on their hand anthropometry. The aim of the study was to investigate hand anthropometric norms in a young Nigerian population and establish their hand shape. Samples of 210 Nigerian subjects drawn from Benue State with mean age 23.11 ± 3.45 were randomly selected. Direct measurements of hand length and width were taken with calipers and hand index calculated to establish hand shape. Mean hand length was 191.12 ± 12.28 mm on the right and 191.82 ± 11.38 mm on the left in males, while females had mean right hand length of 179.83 ± 12.85 mm and 179.74 ± 9.22 mm on the left. Mean hand width was 97.20 ± 11.37 mm and 89.31 ± 8.55 mm on the right hand in males and females respectively. On the left hand, mean hand width was 95.85 ± 11.12 mm and 88.65 ± 13.38 mm in males and females respectively. Mean hand index was calculated to be 50.85 (hyperbrachychei) in the right hand of males and 49.97 (brachychei) on the male left hand. In females, right and left hand index was 49.66 and 49.32 (both brachychei) respectively. The study population showed sexual dimorphism in hand shape.

Key words: Hand index, Hand shape, Hand anthropometry, Hand proportions.

ASN/ASC/19/006

Medical Students Perception of Anatomage: A 3D Interactive Anatomy Dissection (Virtual Dissection) Table

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ABSTRACT

Over the years, dissection of cadavers has been the main teaching and learning method for Anatomy education. The complementary increase in Medical Schools and Cadaver procurement ethics prompted the search for alternatives,

resulting in the emergence of newer technologically advanced teaching tools like *Anatomage* Table (an interactive 3D Virtual Dissection table) affording students the opportunity to explore life-size human anatomy. This study assessed Medical students' perception on the use of *Anatomage* in Anatomy Education. A five-point scale questionnaire with a free hand comment section, was designed to address differing aspects of the role of *Anatomage* table, as adopted by the Department of Anatomy, Edo University, Iyamho, Edo State, Nigeria, was completed by fifty (50) Medical Students exposed to the use of *Anatomage* alongside the traditional cadaveric dissection for two (2) Academic sessions. Our findings showed that *Anatomage* increased students' interest in Anatomy as its 3D-image display enabled better visualization of anatomical structures; the students were satisfied with its use since the expected learning outcomes were achieved. Nevertheless, preference pattern variations were observed in the use of *Anatomage* for various fields of anatomy, as 46%, 48% and 2%, preferred it for Histology, Gross Anatomy, and Neuroanatomy respectively. Whereas 50% declared that *Anatomage* successfully integrated class and laboratory learning, 68% stated that the micrographs were well displayed for histology teaching. Overall, 60% of the students agreed that *Anatomage* should be encouraged in teaching and learning Anatomy and 66% opined that *Anatomage* and Cadaveric dissection should be complementary in teaching and learning anatomy. *Anatomage* can play an important role in the acquisition of 3D anatomy knowledge and promises to be a useful adjunct to traditional learning modalities, which is still highly ranked. However, the complimentary use of the virtual *Anatomage* dissection table alongside cadaveric dissection is preferable compared to being used alone.

Key words: *Anatomage*, Cadaveric dissection, Anatomy Education, 3D-image and Anatomy.

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ASN/ASC/19/007

Methanolic Extract of *Portulaca Oleracea* (Mepo) Shows no Ameliorative Potential in Ovariectomy-Induced Reproductive Toxicity in Normal Cyclic Adult Wistar Rats.

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ABSTRACT

Purslane (*Portulaca oleracea L.*) is one of the most widely used medicinal plant in the world and is considered the richest plant source in omega-3 fatty acids. There is an increasing trend in the search for potential power food and supplements from natural herbs especially in resource-poor countries. This study investigated the effect of the methanolic extract of *Portulaca oleracea* (MEPO) on the reproductive cycle of normal cyclic ovariectomized Wistar rats. Twenty (20) normal cyclic rats (150 - 200 g) were divided into four groups (n=4); control group received no treatment, OVX group was ovariectomized and received no treatment, OVX 400 and OVX 800 groups were ovariectomized and received 400 mg/kg and 800mg/kg MEPO respectively. All the ovariectomy procedures followed the approved standardized anaesthetic and surgical procedures. All MEPO daily administrations were done orally for 14 days before the sacrifice of the animals by cervical dislocation on the 15th day. Our results showed a significant decrease in the serum testosterone and estradiol (E2) levels in OVX, OVX 400 and OVX 800 groups when compared to the control. The serum progesterone levels were only significantly increased in OVX 400 and OVX 800 groups when compared to the control while FSH and LH serum levels showed no significant change across all groups. Cytological examinations showed significant alterations in the oestrus cycle of OVX, OVX 400 and OVX 800 groups compared to the control group. MEPO showed no ameliorative potential in ovariectomy-induced reproductive toxicity in normal cyclic rats.

ASN/ASC/19/008

Evaluation of the interest and Entrepreneurial awareness in Anatomy among the final year student of the Department of Anatomy, OlabisiOnabanjo University**Babatunde BR, Bamgbose KA, Taiwo-Ola DO, Famujimi ME, Obipehin WO, Saula TR, Quadri GO, Adenowo TK**

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ABSTRACT

Anatomy is the root of medicine, in recent years it has assumed yet another statue as a bill board that gives direction to all other medical courses but remain stagnant itself. Aside from those that use Anatomy as a stepping stone to studying medicine, the major question on the lips of Anatomy major students has always been the same and it is “what can I do with Anatomy?”, hence this study investigated the level of interest and the entrepreneurial awareness in the course among final year Anatomy students. A total of 120 final year students from the Department of Anatomy, OlabisiOnabanjo University completed a well structured questionnaire; the data retrieved from the respondents were well collated and subjected to a descriptive statistical method using excel, pie charts were used to present our results. The results showed that 82% of the respondents had no interest in the course as against the 18% of respondents, 91% are aware of the entrepreneurial aspect of Anatomy as against the 9% but 63% were willing to venture into it as against the 37%. In conclusion, this study showed significantly low level of interest in the course but high level of awareness in the entrepreneurial aspect of Anatomy and that the students are ready and willing to explore its entrepreneurial prospects if proper measures are put in place, hence the need for the Anatomy Act.

Keywords: Anatomy, Interest, Entrepreneurial prospects, students

ASN/ASC/19/009

Glutathione ameliorate the effect of 1-Methyl-4-Phenyl-1,2,3,6-tetrahydropyridine in the prefrontal cortex of Mice Model of Parkinson' Diseases**¹Bamidele RB, ¹Olaribigbe MF, ²Ifabunmi OO and ¹Philemon DS**¹Department of Anatomy, OlabisiOnabanjo University, Ogun State²Department of Physiology, OlabisiOnabanjo University, Ogun State**ABSTRACT**

Parkinson disease has grown to become the second most prevalence neurodegenerative disease and it is poised to occupy the number 1 position by 2040 and yet there has not been a known cure and there has been various lapses in the management therapy; hence, this study investigated the potential neuro-therapeutic effect of glutathione on the prefrontal cortex of MPTP mice model of Parkinson disease. About twenty-eight (28) adult mice (*Musmusculus*) weighing between 22g-26g were used for this study. The mice were randomly divided into four groups of seven mice each: A (Control; mice pellets), B (MPTP 20mg/kg, IP), C (100mg/kg Glutathione orally + MPTP 20mg/kg, IP), D (MPTP 20mg/kg, IP + 100mg/kg Glutathione orally). The brains were excised, weighed, appropriate sections taken and processed histologically, stained with H&E and Silver stains. The photomicrographs, Morphometric and Statistical analysis were done using Omax led digital Microscope, Image J Software and Graph Pad Prism (version 7) respectively. The results showed a significant ($P < 0.05$) reduction in the body weight, neuronal cell counts and neuronal density which were all increased following glutathione treatment. There was also a significant ($P < 0.0001$) down-regulation in the expression of PGP9.5 receptor and neuronal derangement/axonal degeneration which were also countered by glutathione treatment. In conclusion, this study has shown both the preventive and curative prowess of glutathione against the various insults from the MPTP mice model, hence glutathione has affirmed itself to be a potential therapeutic agent in the management of Parkinson disease.

Keywords: Parkinson disease, Glutathione, Prefrontal Cortex, 1-Methyl-4-Phenyl-1,2,3,6-tetrahydropyridine

ASN/ASC/19/010

Nasofacial and Canthal Morphometric Analysis of Benue Indigenes in Central Nigeria.

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ABSTRACT

Research interest in facial morphology continues to increase secondary to its importance in establishing identity within the human population among other things. This study was conducted to establish face form, nose type and canthal type in indigenes of Benue State in Central Nigeria. The study was conducted with 210 subjects (mean age 23.11±3.45 years) selected through convenient sampling. A 30cm sliding caliper and a 150mm electronic digital caliper were used to take direct measurements of facial dimensions. Results showed that mean face height and width in males was 110.40±8.50mm and 132.16±7.15mm respectively while females had 103.61±7.60mm and 128.32±6.95mm correspondingly. From the results obtained, face form for both genders was euryprosopic. Nasal height in males was 42.99±3.94mm while nasal width was 41.59±5.07mm. Similarly, nasal height in females was 39.39±3.82mm and nasal width 38.44±4.43mm. Nose type was computed from the data to be platyrrhine type in both males and females. Mean inner and outer canthal distances in males were found to be 33.63±3.61mm and 104.20±9.11mm respectively. In females, these distances were found to be 32.68±3.39 and 102.71±5.76 respectively. Sexual dimorphism exists in the measured parameters. These differences were statistically significant except in the inner and outer canthal dimensions.

Key Words: *Facial index, Nasal index, Canthal index, Facial anthropometry*

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ASN/ASC/19/011

Sex Discrimination Using Index and Ring Finger Lengths in Ukwuani People of Nigeria

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ABSTRACT

Establishing the biological profile of a missing person is crucial to the forensic anthropologic casework. The dimorphic nature of the index and ring fingers makes them a vital tool for sex estimation. This study was undertaken to predict the sex of an individual from the index and ring finger lengths, and index-ring finger length ratio in Ukwuani people of Nigeria. This was a cross-sectional study Ukwuani people secondary School within Ukwuani local Government area. The sample was 551 subjects, 400 adolescents (200 males and 200 females) and 151 adults (68 males and 83 females) based on the systematic random sampling technique. The index and ring finger lengths were measured in centimeter on both sides, using the sliding Vernier caliper. Index: ring finger ratio was also calculated. Data were analyzed using SPSS version 23.0. P-value < 0.05 was considered statistically significant. Independent sample t-test was used to determine the mean gender differences of parameters Paired samples t-test was used to find out mean side differences of parameters. Pearson's correlation was used to ascertain the level of relationship between paired parameters; and also the relationship between age and finger parameters. Discriminant function analysis was conducted to derive predictive score and function for sex determination. Index and ring finger lengths were statistically longer in males than females. Only in the left index (2D): ring finger (4D) ratio in adolescent that is significantly greater in females than males; the others are not dimorphic statistically. There are significant paired sample correlations in both age groups. There was no significant correlation between age and finger lengths, and ratios. The overall accuracy of the discriminant functions is higher and better for the finger lengths than for the finger ratios that are moderate. The models are capable of sex discrimination in a forensic anthropologic situation.

ASN/ASC/19/012

The Ameliorating Effect of Tender Coconut Water And *Heinsia Crinita* on the Dentate Gyrus of Scopolamine-Induced Alzheimer's Model of Wistar Rats**Eluwa MA, Edim GO,*Ekanem AE, Isamoh TE and¹Udonkang MI**

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ABSTRACT

Alzheimer's disease is the most common form of dementia. Its treatment results so far have not been impressive. Its major symptoms being cognitive decline and memory loss proves that the dentate gyrus (a part of the hippocampal formation) is involved. The aim of this study was to investigate the ameliorating effect of tender coconut water and *Heinsiacrinta* on the histology of the dentate gyrus of Alzheimer's model of albino wistar rats. Thirty (30) adult female albino wistar rats weighing 150-200g were used for this study. The animals were divided into six (6) groups labeled A-F with each group consisting of five rats. Alzheimer's disease was induced by intraperitoneal (I.P) injection of scopolamine at 1mg/kg B.wt daily for one week after which booster doses were given at regular interval of two days during treatment. Group A (normal) received feed and water only, Group B received scopolamine only, Group C received 5mg/kg B.wt of the standard treatment drug; Donepezil, Group D received 2mls of tender coconut water, Group E received 500mg/kg B.wt of *Heinsiacrinita* leave extract, and Group F received 2mls of tender coconut water and 500mg/kg B.wt of *Heinsiacrinita* leave extract daily for twenty-one days. The experiment lasted twenty-eight (28) days at the end of which their dentate gyrus' were excised and histologically processed using Haematoxylin and Eosin (H&E) staining method. Histological observations showed Alzheimic pathologic changes in the dentate gyrus upon administration of Scopolamine. Distortion of the granular cell layer, karyolysis of nucleus, and hypoplasia of neuronal cell bodies in the polymorphic cell layer were observed. Slight to marked improvement in histopathology following administration of Donepezil, *heinsiacrinita*, tender coconut water and tender coconut water and *heinsiacrinita* simultaneously were observed. Tender coconut water and *heinsiacrinita* do have ameliorating effect on the dentate gyrus of scopolamine-induced Alzheimer's model of wistar rats following histological observations after treatment. It is therefore advisable for consumption especially for the elderly who are more susceptible to Alzheimer's disease.

Key Words: Tender coconut water, *Heinsiacrinita*, Scopolamine, Alzheimer's disease, Dentategyrus.

ASN/ASC/19/013

An Investigation into the relationship between Second and Fourth digit (2D:4D) ratio with Multiple Births - A case study of Igbo-Ora & Ogbomosho, Nigeria.**¹Eweoya OO, ²Adenowo TK and ³Abutu JA**¹Dept. of Anatomical Sciences, University of Abuja, Nigeria²Anatomy Dept. Olabisi Onabanjo University, Sagamu, Ogun State Nigeria³. Jerab Hospitals, Gwagwalada Abuja, Nigeria.**Corresponding Author:**

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ABSTRACT

Prenatal exposure to Testosterone and Oestrogenshappen human finger length and the ratio of 2D:4D reflects sexual differentiation at an early age. Women with high 2D:4D ratio were found to have high reproductive success and this prompted us to find out if any, the relationship between digital ratio (2D:4D) and multiple births. Two hundred (200) and One hundred (100) voluntary female subjects from Igbo-Ora and Ogbomosho respectively, aged 25-50 years who have completed their families were grouped into 4: Group I: Mothers who had given birth to Twins in Igbo-Ora (n=105). Group II: Mothers who had never given birth to Twins in Igbo-Ora, n=95. Group III: Mothers who had given birth to Twins in Ogbomosho (n=50). Group IV: Mothers who had never given birth to Twins in Ogbomosho, n=50. Manual venier caliper was used to measure the length of the second digit (2D) and fourth digit (4D) and the ratio 2D/4D was then calculated for each subject and the mean values were found. The ratio of mean values of 2D:4D was greater in single births women than in multiple births women of Igbo-Ora and Ogbomosho, (p< 0.05)

and this contradicts the previous study. Multiple births women had lower 2D:4D ratio and are stronger than their single births counterparts who had higher 2D:4D ratio from both Igbo-Ora and Ogbomoso.

Keyword: Testosterone, Oestrogen, 2D:4D ratio, Igbo-Ora, Multiple births.

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ASN/ASC/19/014

Olfacto-Therapeutic Roles of *Nigella Sativa* Oil in Prenatal Ethanol-Induced Adhd

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ABSTRACT

Attention Deficit and Hyperactivity Disorder (ADHD) is a neurological disorder, characterized with hyperactivity, impulsivity and inattentiveness, and often associated with odor impairments. *Nigella sativa* is a therapeutic plant with wide-ranging healing potentials. This research thus investigated the prophylactic effect of *Nigella sativa* oil on the olfactory phenotypes of prenatally induced ethanol models of ADHD in mice, using histological, neurobehavioural and neurochemical assays. Sixty (60) BALB/c strain pups of about 3 weeks old, were equally divided into 4 groups: CTRL (normal saline; 10ml/kg), ETH (ethanol, GD 6-16; 7.59ml/kg), NS (*Nigella sativa* 10 days before copulation; 1ml/kg) and NSE (preventive group), pretreated with *Nigella sativa* before ethanol administration, all administered orally. Olfaction was assayed via Olfactory sensitivity and discrimination tests. General neuronal architecture was measured using H&E and the olfactory bulb was further assayed neurochemically for dopamine, glutamate and GPX. The study was conducted in conformance with the Animal Research Ethics guidelines of the Olabisi Onabanjo University. Hyperactivity, increased odor sensitivity, reduced odor discrimination and dopamine level were recorded in the mice prenatally exposed to ethanol only, confirming the validity of this ADHD model. However, increased relative brain weight (RBW) despite significant decrease ($p < 0.05$) in body weight were also recorded in these mice. *Nigella sativa* was significantly prophylactic against these ADHD deficits, as seen in the improved olfactory discrimination, increased dopamine, GPX and glutamate levels, as well as increased body weight and RBW in all groups treated with *Nigella sativa* oil. No significant neuroarchitectural difference was observed across the olfactory bulbs of the mice. This study establishes the olfacto-therapeutic potentials of *Nigella sativa* in mice ADHD, while recommending the use of golgi and Nissl markers for further histological appreciation of the olfactory neuroarchitecture.

Keywords: ADHD, BALB/c, Ethanol, *Nigella sativa* (NS).

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ASN/ASC/19/015

Soft Tissue Malignant Peripheral Nerve Sheath Tumor (Mpnst) as Seen in Elyon Foundation Medical Center, Calabar, Cross River State, Nigeria.

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ABSTRACT

Malignant peripheral nerve sheath tumor (MPNST) is a form of cancer of the connective tissue surrounding nerves. Given its origin and behavior, it is classified as a sarcoma. About half of the cases diagnosed in people with neurofibromatosis; the lifetime risk for a MPNST in these people with neurofibromatosis type 1 is 8-13%. MPNST with rhabdomyoblastomas component are called malignant triton tumors. This review is aimed at increasing the awareness and raising the index of suspicion and detection rate of this disease among physicians practicing in less sophisticated parts of the world. More frequent diagnoses of MPNST would likely be made when thorough screening is coupled with appropriate radiological investigation and biopsy; and mortality rate from this disease will ultimately reduce. Prognosis is poor with high rates of relapse following multimodality therapy.

Keywords: Neurofibromatosis type 1, peripheral nerve sheath tumor, neurofibrosarcoma, malignant schwannoma

ASN/ASC/19/016

Assessment of the Effects of *Nigella Sativa* Oil on the Olfactory Properties of Socially Isolated Balb/C Mice***Royhaan F, Onamusi B, Bakare F, Otenaike B, Samuel G**¹Neurophytotherapy Unit, Department of Anatomy, OlabisiOnabanjo University, Sagamu, Ogun State, Nigeria**Corresponding Author:****E-mail:** *royhaan.folarin@oouagoiwoye.edu.ng**ABSTRACT**

Social isolation is a state of absolute or near-absolute lack of contact between an individual and society. It is a developmental model of animal Schizophrenia, a multifaceted chronic psychological health disorder that distorts not only the way a person thinks but also the way he smells. *Nigella sativa* has been known since pre-historical times for its immense therapeutic benefits. This research assessed the effects of *Nigella sativa* oil on the olfactory properties of socially isolated mice by assessing olfactory sensitivity and discrimination, histoarchitecture, and Glutamate levels. Five groups of 10 BALB/c pups each, namely CTRL, NS, SIR-NS, NS-SIR, and SIR were employed for the research. Weaned after 3 weeks, the pups were either reared socially on normal saline (CTRL) or *Nigella sativa* oil (NS); or socially isolated and treated with normal saline (SIR-NS) or *Nigella sativa* oil (NS-SIR); had only been prenatally exposed to *Nigella sativa* (NS-SIR). Normal saline & *Nigella sativa* were orally administered at 10ml/kg and 1ml/kg respectively. Olfactory acuity was assayed using olfactory sensitivity and discrimination tests. Histological and neuroanatomical assays were also conducted on the olfactory bulbs. The research was carried out in compliance with the Animal Research Ethics guidelines of the OlabisiOnabanjo University. Body weight of all mice increased significantly. Maternal *Nigella sativa* exposure prevented olfactory insensitivity in the SIR mice. The low glutamate and GPX levels of the SIR mice were up-regulated in the SIR-NS, NS-SIR and NS implying the preventive and restorative effects of *Nigella sativa*. Anxiety/nervousness, sluggishness, hypolocomotion, and olfactory insensitivity persisted in the SIR-NS and NS-SIR mice as characterised with SIR mice. No significant difference was observed in the hippocampal neuroarchitecture across the groups. Social isolation modelled olfactory deficits in BALB/c mice similar to reports in schizophrenics, while *Nigella sativa* expressed its therapeutic potentials thereat. However, total isolation or farther isolation distance between the animals is recommended for better results.

Keywords: *Nigella sativa*, Social isolation, BALB/c, Schizophrenia, Olfactory bulb

ASN/ASC/19/017

Morphological and Biochemical Effect of *Theobroma Cacao* on Liver of Wistar Rats**¹Kebe EO, ²Victor AF, ³Ugwuja JO, ¹Ayi C**¹Department of Anatomy and Forensic Science, Cross River University of Technology, Okuku Nigeria²Department of Anatomy, University of Calabar, Calabar³Department of Anatomy, NnamdiAzikiwe University, Nnewi Campus Anambra State, Nigeria**ABSTRACT**

The study was aimed at assessing the aqueous effect of *Theobroma cacao* (cocoa nuts) extract on the liver and liver enzymes. Twenty four (24) adult wistar female rats weighting about 100-160g were used for this research work and were divided into three (3) groups of eight (8) animals each. The control group was given normal rat feed and water; the low dose group was administered (240mg kg/bw) of *Theobroma cacao* extract and the high dose group was administered (500mg kg/bw) of the test substance. All extract was given daily by oral gavage method for twenty one (21) days. Histological observation showed that following administration of extract of *Theobroma cacao* resulted in periportal inflammation and dilated central vein; these correlates with the biochemical results. Study revealed that administration extract of *Theobroma cacao* at these concentrations, caused impaired hepatic function which may constitute a risk factor for hepatic disorder. From the results of the study, it may be suggested that administration of aqueous extract of *Theobroma cacao* seed at these doses could cause impaired hepatic functions which is a risk factor hepatic cirrhosis and hypertension.

Keywords: *Theobroma Cacao*, Liver, Serum Enzymes

ASN/ASC/19/018

Histo-Hormonal Studies of the Effect of *Sidaacuta* on the Testis of Adult Wistar Rats

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ABSTRACT

Sidaacuta is a very common weed which is also useful in Ayurveda. The aerial part of the plant is the most frequently used part. This study examines the Histo-Hormonal changes of the effect of ethanolic extract of *sidaacuta* on the testis of Adult Wistar Rats. Twenty five male Wistar rats (8-10 weeks old, weighing 180 -220 g) The rats were randomly divided into 5 groups each containing 5 rats. Control group was fed with standard rat chow and water *ad libitum* without any administration of the extract. Olive oil control group received 0.5 ml of olive oil throughout the duration of the experiment. The low dose group received 500mg/kgBw, medium dose group received 1000mg/kgBw while the high dose group received 1500mg/kgBw of the ethanolic extract of *Sidaacuta* orally by means of orogastric tube daily, for 60 days respectively. Hormonal studies showed dose dependent significant ($p < 0.05$) increase in Luteinizing Hormone (LH) across all the treatment groups when compared to the normal and olive oil control groups. Follicle Stimulating Hormone (FSH) was reduced in the low and medium dose animals that received 500mg/kgBw and 1000mg/kgBw of the extract respectively when compared to the control groups, while the high dose group that received 1500mg/kgBw of the extract showed increased FSH level. Testosterone level remained insignificant among all experimental groups when compared to the normal and olive oil control groups. Histological observations of the testes showed dose dependent distortion of the normal cytoarchitecture of the organs, as the high dose (1500mg/kgBw) treated group revealed prominent distortion. The result of this study suggests that consumption of *Sidaacuta* at high dose may cause adverse effect on reproductive parameters and organs.

Keywords: *Sidaacuta*, Luteinizing Hormone, Follicle Stimulating Hormone, Testosterone

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ASN/ASC/19/019

Ovarian Profile of Wistar Rats Treated with Theobroma Cacao Extract

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ABSTRACT

Theobromacacao have been documented in Europe and new Spain from 16th to the early 20th century; it has been associated with various medicinal purposes over the years. 24 adult wistar rats weighing between 120-150g were assigned into 3 groups of 8 rats each. Group A was the control group fed with vital feed and distilled water, group B (low dose group animals) were treated with 240mg/kg-1 body weight of Theobroma cacao seed extract while group C (high dose group) was treated with 500mg/kg-1 body weight of the seed extract. The treatment lasted for 12 days. After the end of the administration, the weight were taken before sacrificed the next day. After the sacrifice the ovaries of these animals were removed, a part of these tissues were processed through paraffin section for Haematoxylin and Eosin (H & E) staining. There was a significant increase in the body weight in the control group when comparing the initial weight to the final weight. From the results, aqueous seed extract of theobroma cacao showed various grades of degenerative changes with prolonged intake having deleterious and adverse effect on ovaries of the female wistar rats.

Keywords: Theobroma cacao, ovaries, Histology.

ASN/ASC/19/020

Phytochemical evaluation, Proximate analyses and Histomorphological changes of the Beta-cells of the Ethanolic Leaf Extract of *Chrysophyllum albidum* in Streptozotocin induced-diabetic Sprague-Dawley rats.*Idaguko CA, ¹Duru FIO and ¹Oremosu AA

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ABSTRACT

The experimental protocol was reviewed and approved by the College of Medicine of the University of Lagos Health Research Ethics Committee (CMUL/HREC/05/16/011). Studies have recognized the numerous health benefits of *Chrysophyllum albidum*. To examine the histological effects of ethanolic leaf extract of *C. albidum* on the pancreas of diabetic rats and its phytochemicals. Thirty Sprague Dawley rats (170-200 g) was divided into 6 groups (n=5). Groups A and B received only 10 ml of normal saline; group C received 2 mg/kg of glibenclamide; groups D, E and F received 125, 250, and 500 mg/kg/day of ethanolic leave extracts of *C. albidum* respectively. With the exception of group A, animals in groups B-F was challenged with 50 mg/kg of streptozotocin intraperitoneally after 14 days of oral administration of normal saline, extract and glibenclamide. Administration of normal saline, extract and glibenclamide was continued for another 14 days. The animals were fasted overnight before sacrifice on day 14th; using diethyl ether anaesthesia, the pancreas was removed and prepared for histological observation using modified aldehyde fuchsin staining technique. Phytochemical evaluation and proximate analysis was done. Histomorphological examination of pancreatic tissues showed evidence of cellular regeneration of the destroyed beta cells at doses of 500 mg/kg/day. Phytochemical screening of the plant parts revealed presence of anthocyanin, alkaloids, flavonoids, tannins, phenols, cardiac glycosides, terpenoids and reducing sugar. Proximate analysis revealed 4.83% Moisture, 39.59% Crude fibre, 3.35% Ash, 2.35% Crude fats, 3.21% Crude proteins and 46.71% Carbohydrates respectively. The results shows that *C. albidum* extract have a rich phyto- constituents and may have mediated its antihyperglycemic action via regeneration of pancreatic beta cells. Hence it is a potential drug precursor for future diabetes management

Keywords: *Chrysophyllum albidum*, Diabetes mellitus, Beta-cells, Leaf, Phytochemicals

ASN/ASC/19/021

Amygdala's Microstructure and Neurobehavioural Effects of *Rauvolfia Vomitoria* Root Bark and *Gongronema Latifolium* Leaf Ethanolic Extracts in the Murine

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ABSTRACT

Rauvolfia vomitoria (RV) is used locally in the management of psychotic disorders, but adverse effects including emotional breakdown has greatly limited its wide usage. Such reports on emotional disturbance warranted this investigation on the effects of the combination of *R. vomitoria* and *G. latifolium* (GL) on the amygdala. Twenty-four, three months old male albino mice weighing 22-27 g were divided into four groups. Group 1 animals were administered distilled water only. Groups 2, 3 and 4 animals were administered respectively, 200 mg/kg body weight RV, 200 mg/kg body weight GL, and a combination of 200 mg/kg body weight RV and 200 mg/kg body weight GL, orally for 14 days. Neurobehavioural parameters evaluated using elevated-plus maze showed significant decrease ($p \leq 0.001$) in stretch-attend postures, time spent in closed arm, grooming frequency, protected head-dip, and significant ($p \leq 0.01$) increase in the time spent in open arms and unprotected head-dip by RV group. In the light/dark box test, line-crossing, rearing frequency and stretched-attend posture were significantly ($p \leq .001$) reduced in the RV group. However, in the GL and the combined RV and GL groups, these behaviours were not significantly ($p > 0.05$) different compared with the control group and each other. Histological results showed hypertrophied cells with pyknotic and karyorrhetic nuclei, and reduced expression of Nissl substance in the sections

of amygdala of the animals in the RV group, while no adverse effect was observed in the section of amygdala of the animals in the GL group. The combined RV and GL group showed less degenerative features in the cytoarchitecture of the amygdala with well stained Nissl substance in most of the cells. Immunolabelling result showed increased neuron specific enolase and glial fibrillary acidic protein expression in the RV group, while the combined RV and GL group showed less expression of enolase-2 and GFAP. This study showed that oral administration of ethanolic root extract of RV has adverse effects on the microstructure of murine amygdala and their neurobehaviour, which may be ameliorated by GL.

Keywords: *Rauvolfia vomitoria*, *Gongronema latifolium*, Amygdala

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ASN/ASC/19/022

Neuroprotective Effects of Aqueous Turmeric Extract on Aluminium Toxicity in some Selected Parts of the Brain of Adult Female Wistar Rats.

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ABSTRACT

Aluminium chloride (AlCl₃) is a neurotoxic agent that causes oxidative stress leading to neuronal tissue damage. This study aims at investigating the effect of aqueous turmeric extract on aluminum chloride induced neurotoxicity on the behavior and architectural activities of some parts of the brain of adult female Wistar rats. Thirty adult female Wistar rats were divided into six groups with each comprising of five rats. A: Control, B: 250mg/kg per body weight (PBW) of turmeric extract, C: 500mg/kg PBW of turmeric extract, D: 100mg/kg PBW of AlCl₃, E: Turmeric low dose (250mg/kg) + AlCl₃(100mg/kg), F: Turmeric high dose (500mg/kg) + AlCl₃(100mg/kg). Administration lasted for 17 days using oral cannula. The animals went through open-field-test and Morris water maze to test their explorative and cognitive abilities and were sacrificed on the 18th day. Their brains were excised; the hippocampus, dentate gyrus, cerebellum and prefrontal cortex were excised and homogenized to analyze for reactive oxygen species (ROS) and Nitric Oxide (NO) level. The tissues were taken for histological (Hematoxylin and Eosin, Cresyl Fast Violet), biochemical assays (Malondialdehyde and Acetylcholinesterase) and immunohistochemical analysis (Glial Fibrillary Acidic Protein-GFAP and Synaptophysin). *The open field test showed significant differences amongst the treatment groups with the AlCl₃ group having significant increase in grooming and rearing frequency. AlCl₃ exposure significantly saw an increase in ROS and NO levels, while a significant reduction in acetylcholinesterase and malondialdehyde activities were recorded in the turmeric treatment groups when compared to the AlCl₃ group with the low dose turmeric group having the most significant reduction. The immunohistochemical analysis showed an increased immunopositivity for GFAP and Synaptophysin. Exposure to AlCl₃ caused neurodegenerative effects however, turmeric was seen to be able to minimize these effects on the organs. The low dose turmeric showed better ameliorative and neuroprotective potential in all the selected organs.*

Keywords: Aluminium chloride, Turmeric, female wistar rats, Brain, Oxidative stress.

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ASN/ASC/19/023

Increased De Novo Glutathione Production Ameliorates Sexual Dysfunctions in Rats Subjected to Paradoxical Sleep Deprivation

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ABSTRACT

Poor quality of sexual life has been reported secondary to poor sleep or sleep deprivation. Paradoxical sleep is an integral part of the sleep wakefulness physiology and prolonged paradoxical sleep deprivation (PSD) may be fatal. The objective of this was to determine if administration of D-ribose-L-cysteine (Riboceine) and zinc can attenuate

the effect of PSD on sexual function in male rats. After the acclimatization period, 25 healthy male rats were randomly distributed into 5 experimental groups of 5 rats in each group. Group A (PSD only): the animals were only sleep deprived. Group B (PSD + Riboceine): the animals were sleep deprived and given 100mg/kg body-weight of pure Riboceine. Group C (PSD + zinc): the animals were sleep deprived and given 10mg/kg body weight of zinc sulphate. Group D (PSD + Riboceine + Zinc): the animals were sleep deprived and given a combination of 100mg/kg of Riboceine and 10mg/kg of Zinc Sulphate. Group E (Control): the rats were left free in their cage and had normal sleep patterns. The animals were submitted to PSD for 20 hours per day from for 14 days by placing them in a custom-made tank containing 6 round platforms of about 6 cm in diameter. The tank was filled with water to about 1 cm below the platform surface. The sexual behavioural study was carried out on the 15th day after the sleep deprivation period. Analysis of results shows that for animals treated with Riboceine, all sexual parameter such as mount frequency and latency, intromission frequency and latency and ejaculation frequency and latency were significantly improved compared with animals subjected to PSD only. This improvement correlates strongly positively with serum glutathione (GHS) levels. In summary, Riboceine increases circulating GHS which leads to improved sexual function during sleep deprivation.

Keywords: *Sleep Deprivation, Sexual Function, Glutathione*

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ASN/ASC/19/024

Antidiabetic Effects of Aqueous Seed Extract of *MoringaOleifera* onAlloxan- Induced Diabetic Model of Adult Male Wistar Rats

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ABSTRACT

Diabetes mellitus is a complex metabolic disorder due to insufficient action of insulin or pancreatic β -cell dysfunction. Many herbal medicines have been recommended for the treatment of diabetes due to their strong anti-oxidant properties. This study aimed to evaluate the anti-diabetic effects of aqueous extract of *Moringa seed* in alloxan induced diabetic male Wistar rats. Twenty- five (25) Adult Male Wistar rats were bred according to approved guidelines of the National Research Council, (2011). They were divided into five groups (n=5). Administration was done via oral route over a period of two weeks. Group A: Control, Group B diabetic model (alloxan induced), Group C: 80mg/kg body weight of aqueous extract of *MoringaOleifera* seed, Group D:diabetic model treated with 80mg/kg of aqueous extract of *MoringaOleifera* seed and Group E: diabetic model treated with standard antidiabetic drug (5mg/kg Glibenclamide). Serum was analysed for lipid peroxidation enzyme-Malondialdehyde (MDA) and antioxidant enzymes Superoxide dismutase (SOD) activities while pancreas was processed for Haematoxylin and Eosin stain and Periodic Acid Schiffs stain for glycogen.The results showed a significant decrease in final body weights of the experimental animals ($P<0.05$) compared to the control and their respective initial body weights. Lipid peroxidation increased in group B as compared to A, C, D and E. There was no significant difference in Mo and GLB reduction in peroxidation activity MDA as well as SOD levels. There was no distortion of the clustered Langerhans cells in the control and MO, GBL treated groups but severe disruption in Alloxan treated group. *MoringaOleifera* has a potential cytoprotective effect on Islet of Langerhans against oxidative stress mediated diabetic disorder and can be used as a therapeutic in diabetic disease prevention and management

Keywords: *MoringaOleifera*, Diabetic, Langerhans Cells, Glibenclamide, Malondialdehyde and Superoxide Dismutase

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ASN/ASC/19/025

Therapeutic Effects of *Nigella Sativa* on Prefronto-Cortical Functions in Mice Adhd Model Following Maternal Ethanol Exposure.

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ABSTRACT

Attention Deficit and Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder, with pre-fronto-cortical (PFC) cognitive functions implicated in its pathophysiology. Ethanol is a psychoactive agent employed in the modelling of ADHD. *Nigella sativa*, for its diverse therapeutic effects, was thus investigated for its curative roles in the PFC through histological, neurochemical and neurobehavioural parameters. Twelve BALB/c pups each from four groups of dams were employed for the research. Normal saline was administered to the control (CTRL) dams, ethanol to the ETH dams, *Nigella Sativa* to the NS dams, *Nigella sativa* and then ethanol to the NSE dams. Novel object recognition test was used to assess recognition memory in the pups 15 days after weaning. Histological illustration of PFC was conducted using H&E stain. ETH mice exhibited the least recognition memory while *Nigella sativa* prevented this deficit in NSE mice, by eliciting much higher recognition memory. This indicates neuroprotective role of *Nigella sativa* despite maternal route of exposure. NS pups also had the highest weight gain, glutamate and GPX levels, while raising these levels in the ETH mice which had the lowest, indicating a neurochemical corroboration. This study thus confirms the therapeutic effects of *Nigella sativa* on the prefronto-cortical functions in mice ADHD model following maternal ethanol exposure

Keywords: ADHD, Pre-frontal Cortex, *N. sativa*, Glutamate, Dopamine, Cognition, BALB/c

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ASN/ASC/19/026

Histological study of the anti-oxidative potentials of ethanolic leaf extract of *Talinum triangulare* (water leaf) on the liver of monosodium glutamate (MSG) induced hepatotoxicity in albino wistar rats

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ABSTRACT

Monosodium glutamate (MSG) is a widely used flavour enhancer despite its documented adverse effect on humans and animals. *Talinum triangulare* (water leaf) is one of the commonest vegetable known for its nutritious and medicinal properties. This study was therefore designed to investigate the anti-oxidative potentials of ethanolic extract of *Talinum triangulare* on the liver of monosodium glutamate induced hepatotoxicity. Twenty-five male wistar rats weighing 100-150mg were used for the study. They were acclimatized under standard laboratory conditions for two weeks and randomly divided into 5 groups designated A, B, C, D and E with five rats each. Group A served as control and was given 1ml of distilled water, group B received 2000mg/kg of MSG, group C and D received 100mg/kg and 200mg/kg of ethanolic leaf extract of *Talinum triangulare* plus 2000mg/kg MSG. All administrations were done orally for 21 days. All animals were sacrificed under ketamine anaesthesia (4mg/kg i.p.), blood was collected via ciliary puncture for estimation of serum AST, ALP and ALT. The liver was harvested and processed for routine H&E staining. Histological study of the liver revealed normal histological features - central vein, hepatocytes and sinusoids, group B showed infiltrated central vein and degenerating hepatocytes while groups C, D and E showed normal histology. There was significant increase in serum AST levels in groups B, C, D and E compared to control. There was no significant difference in ALT and ALP levels in all groups. These results revealed that *Talinum triangulare* attenuated the effects of MSG on the liver

Keywords: monosodium glutamate, *Talinum triangulare*, liver.

ASN/ASC/19/027

Estimation of Cranial Capacity in Ages 18-33 Year Old Among Undergraduate Students of Alex Ekwueme Federal University Ndufu-Alike, Ikwo, Ebonyi State, Nigeria.***Obaje GS, Okafor S and Egwu AO**

Department of Anatomy, Faculty of Basic Medical Sciences, Faculty of Medicine, Alex Ekwueme Federal University Ndufu Alike Ikwo, Ebonyi State.

Corresponding author: Obaje GS**E-mail:** obaje199@gmail.com; +2348068638121**ABSTRACT**

In the recent times, forensics have gained in knowledge from cranial capacity measurements for profiling and investigations. To determine cranial capacity of adult populations in the Eastern Nigeria, 250 subjects of healthy 100 males and 150 females from higher school in the Eastern Nigeria were randomly recruited in the 2018/2019 academic session. Anthropometric measurements were: cranial capacity, cranial length, cranial breadth and cranial height. Cranial capacity was greater in males than in females at ($p < 0.001$), indicative of sexual dimorphism. This study has helped to predict sexual dimorphism in the crania of the study population. The study will assist in subjects' identifications in crime and biological reconstructions.

Keywords: anthropometry, cranial capacity, ebonyi state, sexual dimorphism.

ASN/ASC/19/028

Vglut1 Receptor is Implicated in the Cerebellar Lesion Associated with L-Name Rat Model of Intrauterine Growth Restriction**Oladejo MK, Sulaiman IA and Shallie PD**

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ABSTRACT

Intrauterine growth restriction (IUGR) is a major cause of perinatal mortality and morbidity and it is associated with several health problems throughout life. Intrauterine growth restriction plays a significant role in short and long-term outcome and is reflected in high incidence of brain dysfunction and neurodevelopmental impairment. This study assessed the role of VGLUT1 in the cerebellar cortex of L-nitro arginine methyl ester (L-NAME) Rat model of intrauterine growth restriction. Ten adult female rats were divided into 2 groups (A & B) each containing 5 rats. Group A received a daily single dose of normal saline orally from gestational day 9 until parturition, while Group B were administered 50 mg/kg daily of L-NAME orally from gestational day 9 until parturition. Pups from group A were given access to food and water *ad libitum*, while pups from group B were randomly assigned into 3 groups: G1 pups were given free access to food and water; G2 and G3 pups were administered 1.5 mg/kg body weight of glutathione intraperitoneally (i.p) from postnatal day (PND) 4-9 and PND 25-31 respectively. At the end of the intervention, the rats were euthanized and the brains dissected and fixed in phosphate buffer formalin. The brain tissue was processed for routine histological procedures and stained with H&E and Immunofluorescence stains. The results showed that IUGR rats presented with significant low birth and relative brain weights, neuronal degeneration, vacuolation of Purkinje cells, histoarchitectural distortion and significant reduction in neuronal density. The model also showed significant down-regulation in the expressions of the transporters Glutamate (VGLUT1). While glutathione treatment showed significant restorations in the lesions observed in the IUGR rats. Our results showed that glutathione exhibited significant therapeutic potential via upregulation of VGLUT1 in the cerebellar cortex of IUGR rat model.

Keywords: IUGR; Cerebellum; Glutathione; L-NAME; Neurodevelopment

ASN/ASC/19/029

The Effect of Post-Natal Lead Exposure on Microglia activation in the Hippocampus of Developing Wistar Rats

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ABSTRACT

The activity of the hippocampus is distorted particularly in children by exposure to lead. Most studies have reported lead induced neurotoxicity is via ionic mechanism and that of oxidative stress. Hence there is a need to investigate other mechanisms that may be responsible for lead induced neurotoxicity in the hippocampus. Therefore, this study was conducted to examine the effect of post-natal lead exposure on microglia activation in the hippocampus of developing Wistar rat. Nine pregnant rats were randomly distributed into three groups of three rats each, consisting of a control group (1) and experimental groups (2 and 3). Dams in control group were given distilled water while dams in Group 2 and group 3 were orally administered 60mg/kg and 90mg/kg bwt of lead acetate respectively. The pups of the experimental groups (2 and 3) were exposed to lead acetate via lactation from dams from post-natal day (PND) 1 - PND 21. On PND 22, all the pups were euthanized with 75mg/kg of ketamine, the brain of five of the pups was excised and prepared for lead quantification using atomic absorption spectrophotometer. The other five pups were perfusion fixed, hippocampus extracted and prepared for tomato lectin staining, afterwards the number of activated microglia cells was determined using a physical dissector probe. The result from the present study revealed significant ($p < 0.05$) increase in accumulation of lead deposit in the brain and an insignificant ($p > 0.05$) increase in the number of activated microglia cells in the hippocampus of Wistar rat pups exposed to increasing concentration of lead acetate via lactation from dams from PND 1-21 when compared with the control. P value < 0.05 was considered significant. With respect to the findings of the present study, exposure to increasing doses of lead acetate from post-natal day 1-21 did not significantly trigger microglia activation but caused accumulation of lead in the hippocampus of developing Wistar rats.

Keywords: Post-natal, Hippocampus, Microglia, Stereology, Lead

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ASN/ASC/19/030

Neuroprotective Effects of Trans -Cinnamaldehyde in rat Model of Insulin Resistance.

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ABSTRACT

Chronic hyperglycemia in type II diabetes is associated with altered cognitive function. Trans Cinnamaldehyde (TCA) has been shown to have many pharmacological activities such as anti-diabetic, and anti-inflammatory. In this present study, we are currently investigating the effects of TCA on type II diabetes-induced cognitive deficits. To investigate the neuroprotective effect of trans-cinnamaldehyde in the hippocampus of rat models of dementia. Dementia was induced in thirty (30) adult wistar rats using high fat diet (HFD) for 4 months followed by multiple low doses of streptozotocin (STZ) (40 mg/kg, i.p.) administration. TCA was administered orally for 30 days at the doses of 40mg/kg and 60mg/kg body weight. At the end of HFD and STZ administration animals were randomized and divided into following groups; (I) Control (vehicle only-Olive oil), (II) diabetic Control (HFD+STZ+Veh), (III) Normal (TCA only 60 mg/kg), (IV) Normal (TCA only 60 mg/kg), (V) diabetic treated (HFD+STZ+TCA 60mg/kg) and (VI) diabetic treated (HFD+STZ+TCA 40mg/kg). Animals were subjected to behavioral tests after the TCA treatment. Histological studies, inflammatory markers (TNF- α and IL-4) and Nuclear Factor-Kappa B were assessed in the hippocampus. Vehicle-treated diabetic rats showed impaired behavior in Morris Water Maze and Y-Maze tests compared to treated and control groups. Trans Cinnamaldehyde suppresses neuro inflammation and significant amelioration of behavioral deficits in demented rats. This present study demonstrates that treatment with trans- cinnamaldehyde improves behavioral deficits, restores cellular histo architecture and reverses neuroinflammation in rat models of dementia

Keywords: Dementia, trans cinnamaldehyde, High fat Diet, streptozotocin, NF-Kb, IL-4, TNF- α .

ASN/ASC/19/031

Prevalence of Low Back Pain in a Southern Nigerian Population.

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Corresponding Author:**E-mail:** joy.olotu@uniport.edu.ng; +2348037752394**ABSTRACT**

Low back pain (LBP) is one of the very common health issues faced by most people in their mid-adult years. A worldwide prevalence of LBP has been reported to be between 30-80%. This study aimed at evaluating the prevalence of LBP and the factors that may cause or contribute to it. A cross-sectional study was carried out in Port Harcourt to evaluate the prevalence of LBP from January to June, 2018. A total of 401 randomly selected subjects whose ages ranged from 20-59 years, comprising of 210 males and 191 females Nigerians residing in Port Harcourt were considered in this study. A Dutch musculoskeletal Questionnaire on low back pain was adapted for the study. Anthropometric measurement of weight and height were taken to determine the body mass index. Data collected were analyzed using SPSS version 23.0 and percentages, descriptive statistics was used to establish cut-offs and social demographic variables. Categorical variables were analyzed using chi-square test and binary logistic regression summary. The prevalence of LBP was found to be 48% and the mean body mass index of subjects with LBP was 25.67. LBP was more prevalent among female traders (21.7%), male drivers (20.6%) and overweight subjects (55.7%). There was statistically significant difference between health status ($p < 0.01$), posture duration ($p = 0.03$) body mass index ($p < 0.01$) of subjects and LBP. No statistical significance was predicted between LBP and job posture ($p = 0.1$), age ($p = 0.13$), exercise engagement ($p = 0.06$) and sex ($p = 0.74$). The point prevalence of LBP among Port Harcourt residents was 48%, which represents almost half of the study population, indicating that LBP is a problem faced by the study population and had positive relationship with body mass index, posture duration and health status.

Key Words: Prevalence, low back pain, waist pain, Nigerians, Port Harcourt.

ASN/ASC/19/032

Low Back Pain in Pregnancy: Treatment Choice and Success Rate.¹Olotu EJ, ²Mohamed SL and ¹Asoegwu CF¹Department of Anatomy, Faculty of Basic Medical Sciences, University of Port Harcourt.²Department of Obstetrics & Gynaecology Nursing, Faculty of Nursing, Zagazig University, Egypt.**Corresponding Author:****e-mail:** joy.olotu@uniport.edu.ng; +2348037752394**ABSTRACT**

Low back pain (LBP) in pregnancy is a very common side-effect. This condition is of concern both to the patient and the caregiver, this is due to the fact that treatment options are usually considered with the status of the foetus in mind. The financial status of the patients to a large extent also contributes to the preferred treatment option by patients. The different treatment options accessed by pregnant women and the results obtained was evaluated in this study. A total 429 gravidas (20-45 years) with gestational period of twenty weeks to thirty-two weeks attending randomly selected antenatal clinics within Port Harcourt were involved in this study. All participants answered a questionnaire; women who experienced LBP during pregnancy ($n = 309$) continued in the study and later they were also interviewed. Content analysis, descriptive and inferential statistics were used to analyse the data. Mean analysis of their BMI was observed to be 30.13. a careful analysis of the of the treatment options/choice accessed by participants indicated that 39.9% of the studied population did nothing while, 34.4% used pain relieving tablets. Forty-eight (16%) of the studied population favoured the use of exercise, while 7.4% indicated that taking a rest relieved their pain. There seem to be little or no professional intervention in the treatment of LBP in the study area. Pregnant women do nothing about it and others casually use painkillers for treatment of LBP. It is very important that health care providers intervene by establishing clinics or centres where treatment and advise can be sought.

Keywords: Pregnancy, pain, treatment, prevalence career women

ASN/ASC/19/033

Comparing the Effects of Calabash Chalk and Potash on Foetal Development: Implication of Pica Practice

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ABSTRACT

Pica practice among pregnant women in Nigeria and other countries in Africa is very popular. Although some of the substances consumed in pica practice do not have any nutritional value, others contain some substances that are known to be toxic; hence we investigated the effect of Calabash Chalk and Potash on foetal development. Twenty five female wistar rats weighing between 120-220g were used for this study. They were mated with males in a 2:1 (female: male) ratio. When mating and pregnancy were ascertained using daily vaginal smear analysis, the pregnant rats were divided into five groups of five rats each: Group A (control) was given distilled water, groups B and C were given 500mg/kg and 1000mg/kg body weight of Calabash chalk respectively, while groups D and E were given 500mg/kg and 1000mg/kg body weight of Potash orally for nineteen days with the aid of a canula and syringe. On day 20, the animals were sacrificed and the foetuses were removed, blotted dry and examined for gross defects, foetal growth parameters were measured. There was an appreciable reduction in the maternal weight of rats in group E during the 2nd and 3rd trimesters of Pregnancy ($p < 0.05$). The results of the foetal growth parameters measured in groups B and C showed significant reduction in except in the mid arm circumference. Resorption sites were seen on the uterine cornua of all the pregnant rats in groups D and E indicating loss of pregnancy. An appreciable number of rats in groups B and C also lost their pregnancies as indicated by the resorption sites observed. These observations could be attributed to the interactions between Manganese and other constituent micro elements in calabash chalk and potash, thus the need to discourage the consumption of these substances during pregnancy.

Keywords: Calabash Chalk, Vaginal smear analysis, Crown-rump length, Resorption sites, Manganese

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ASN/ASC/19/034

Phenol Models of Essential Tremor and the Hepatoprotective Effects of *Nigella Sativa* Oil

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ABSTRACT

Essential tremor (ET) is a neurodegenerative disorder, associated with mild cognitive impairment, mood disorders and other health defects. Phenol, a tremorgenic agent for animal ET models, is a known hepatotoxicant, while *Nigella sativa* (*N. sativa*) is a neuroprotectant, also known to protect cells against oxidative damages caused by the liver. This study thus investigated the effects of *Nigella sativa* on liver functions in phenol-induced mice model of essential tremor. Seventy-five male (75) albino mice weighing between 15g- 30g were equally divided into 5 groups, namely, Control (normal chow), 'P' (100mg/kgbw Phenol), 'NS' (1ml/kgbw *N. sativa*), P/NS (100mg/kgbw Phenol and 1ml/kgbw *N. sativa* concurrently), NS/P (1ml/kgbw *N. sativa* and 100mg/kgbw Phenol successively) for 16 days. The animals were weighed and sacrificed after 24 hours of last administration. The liver was excised, weighed and assayed for albumin and Alanine Phosphatase levels, and also illustrated histologically using H&E stain. The research was conducted in conformance with the Animal Research Ethics guidelines of the Olabisi Onabanjo University. While significant increase in appetite, body weight, and relative liver weights were recorded in all groups, traits such as mild tremor, significant up-regulation of ALP, and down-regulation of albumin and liver hepatocytes ($p < 0.05$) were recorded in the 'P' mice administered with Phenol only. *N. sativa* however reversed these defects significantly. These confirm the hepatoprotective effects of *Nigella sativa* in tremor-induced mice.

Keyword: Essential tremor, Albino mice, *Nigella sativa* oil, Phenol

ASN/ASC/19/035

Some histochemical activities of *Moringaoleifera* seeds oil on cadmium –induced oxidative stress in the heart of adult wistar rats (*rattusnovergicus*)**Olusegun DO, Akwu BP and Olorunnado SE**

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ABSTRACT

This study was carried out to investigate Antioxidant activities of *Moringaoleifera* seed oil extract on Cadmium induced oxidative stress in the heart of male adult Wistar rats. Twenty-four adult male Wistar rats were randomly selected into four groups. Group A control, received 3 ml of phosphate buffered saline, Group B, C and D rats were given 0.25 mg/l of cadmium injection intraperitoneally and were left for 72 hours; there after Group B induced control, received 3 ml of phosphate buffered saline; Group C treated received 5 mg/kg and Group D treated rats received 10 mg/kg body weight of oil extract of *Moringaoleifera* seeds for four weeks of experimental period. The animals were sacrificed followed by quantitative examination of Glucose 6 phosphate dehydrogenase (G6PDH), Lactate dehydrogenase (LDH) and Malondialdehyde (MDA) Assay. The enzymatic activities of G-6-PDH, LDH and MDA in the animals that were treated with 5mg/kg and 10 mg/kg body weight of oil extract of *Moringaoleifera* seeds were significantly reduced when compared with the activities of the enzymes G6PDH, LDH and MDA in the induced- control group B rats. The reduction in the activities of the metabolic enzymes in the heart of animals treated with 5 mg/kg and 10 mg/kg respectively revealed protective ability of *Moringaoleifera* seeds oil against chemicals and drugs that cause oxidative stress. This demonstrates the antioxidant activities of the bioactive constituents of *Moringaoleifera* seeds oil.

Keywords: *Moringaoleifera* seeds oil, Heart, Male Adult Wistar Rat, Antioxidant, Oxidative stress.

ASN/ASC/19/036

Craniofacial forms of the Ekpeye Ethnic Group of Rivers State.**Oria RS, Uzhieyekachi KV, Ugbem PU and Chika GC**

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Corresponding Author:**E-mail:** rademeneoria@gmail.com, +2348067293509**ABSTRACT**

Anthropometric measurements for head and face provide essential information that can be used in craniofacial and plastic surgery and in diagnostic comprehension between the abnormal and normal population. There is no published literature about the craniofacial forms in Ekpeye ethnic group in Nigeria. Hence, this study was undertaken to document the various cranial and facial forms of the Ekpeye ethnic group of Rivers state in southern Nigeria. Head length, head width, face length, face width were measured using a spreading caliper and the cephalic and prosopic indices calculated in a total of 500 subjects (250 males and 250 females). Results analyzed showed that all males of the Ekpeye ethnic group were mesocephalic with mean cephalic index 79.86 ± 0.64^B , whereas the females were brachycephalic with mean cephalic index of 87.48 ± 1.43^B and *t-Test* result revealed that the difference between male and female cephalic index was statistically significant at $p > 0.05$. On the basis of face type, the males fell into Hypereuriprosopic group with prosopic index of 92.70 ± 1.07^D , while the female belong to hyperleptoprosopic group with prosopic index 82.84 ± 1.17^D with *t-Test* showing that the difference between male and female prosopic index was statistically significant at $p > 0.05$. Regardless of the sex, the Ekpeye ethnic group falls under mesocephalic head shape with the highest frequency of 33.17% whereas the most predominant face type was Hyperleptoprosopic type with a frequency of 25.83% Ekpeye ethnic group of River state have mesocephalic head shape and hyperleptoprosopic face type. *The findings of the present study will be useful to the bioanthropologist, forensic scientist and plastic surgeons.*

ASN/ASC/19/037

Curative Effect of Aqueous Extract of *FicusExasperata* on Kidney Histology and Body Weight of Gentamicin Induced Kidney Damage in Adult Male Wistar Rats

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ABSTRACT

This study evaluated the curative effect of aqueous extract of *ficusexasperata* on the kidney histology and body weight of gentamicin induced kidney damage of adult male wistar rats. Twenty four rats weighing (140-230g) were randomly divided into six groups of four rats each. Group I received distilled water, group II was administered with gentamicin intraperitoneally for 14 days. Rats in group III and IV were administered daily with aqueous extract of *ficusexasperata* (100mg/kg and 200 mg/kg respectively) for 14 days. Rats in group V and VI were administered with gentamicin intraperitoneally for 7 days and treated with aqueous extract of *ficusexasperata* (100mg/kg and 200 mg/kg respectively) for 7 days. On the day 15, the rats were weighed using a weighing scale and sacrificed using chloroform. The kidney was isolated through an incision on the abdominal cavity and blood sample was collected through cardiac puncture for kidney biochemical analysis of serum creatinine and urea level. Data obtained from this study were analyzed using one way ANOVA and P value less than 0.05 was considered statistically significant Administration of gentamicin caused a significant loss of weight in wistar rats in group II when compared to group I, there was a significant increase in serum creatinine and urea level of rats in group II when compared to the normal group (group I). There was alteration to normal in the value of serum creatinine and urea level in all the extracted treated groups. Kidney histology showed an abnormal kidney architecture with tubular necrosis and abnormal glomeruli in group II wistar rats due to gentamicin toxicity. But groups treated with extract showed normal kidney histology. This results suggests that aqueous extract of *ficusexasperata* possess curative abilities on gentamicin induced nephrotoxicity.

Key Words: *ficusexasperata*, Genatmicin, Serum creatinine, Urea level

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ASN/ASC/19/038

The Effect of *Vernoniaamygdalina* on Chloroquine-Induced Cardiotoxicity in Adult Wistar Rats

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ABSTRACT

Cardiotoxicity could result from chemotherapeutic drugs or other medications used in disease control such as antimalaria drugs.

Chloroquine (C.Q), an antimalarial agent is used in the treatment of rheumatoid arthritis, giardiasis and lupus erythematous. However, its cardiotoxic roles have been documented. *Vernoniaamygdalina del. (V.A)* exhibits antioxidant and cytoprotective activities, owing to presence of flavonoids. There is insufficient data to support the cardioprotective potentials of this neutraceutical. We aimed to evaluate the possible effects of *Vernoniaamygdalina* on Chloroquine-induced cardiotoxicity in Wistar models. Twenty-four male adult Wistar rats were randomized into four groups of six rats each: I, Control: given normal feed and water *ad libitum* for 28 days; II, administered 30 mg/kg chloroquine orally for 28 days; III, administered 30 mg/kg chloroquine orally for 28 days and with 400mg/kg V.A for another 14 days; VI, administered 400mg/kg V.A for 28 days. Antioxidant parameters [malondialdehyde (MDA), glutathione (GSH), and super oxide dismutase (SOD)], and histology of rat cardiac muscles were examined in the different groups. Significant ($p < 0.05$) increase in MDA level, reduced GSH level, increased SOD activity, and altered microanatomy of the rat cardiac muscle in positive control group when compared with the negative control group. The changes in MDA and GSH concentration and SOD activity parameters were significantly ($p < 0.05$) mitigated in rats co-treated with V.A when compared with the positive control rats. Similarly, co-

administration of V.A with C.Q inhibited chloroquine induced-cardiotoxicity by reducing the altered microanatomy of the cardiac muscle of rat. *Vernoniaamygdalina* ameliorated chloroquine-induced cardiotoxicity in rats via its antioxidant property.

Keywords: Cardiotoxicity, Chloroquine, Vernoniaamygdalina, Oxidative Stress, Cardiac muscle

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ASN/ASC/19/039

Gender Variation in Cephalic Indices Among Yoruba Tribe.

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ABSTRACT

Cephalic index is an important parameter used in the determination/ identification of race and sex of individuals of unknown identity. It is an important parameter in Forensic Medicine, Anthropology and Genetics. This study was carried out on 140 Anatomy Students of Yoruba tribe, Male (n=58) and female (n=82) aged between 18-24 years after necessary consent were obtained. With the aid of sliding caliper, Cephalic width and length were measured to the last 0.01 cm. Cephalic Index (CI) was calculated as the ratio of cephalic width and cephalic length, and data were analysed using ANOVA. Males had the mean (\pm SD) cephalic index value of 82.06 ± 9.14 and females had mean (\pm SD) cephalic index value of 82.90 ± 6.63 , with significant difference ($P < 0.05$). So they were both observed to have Brachycephalic. The result of the present study shows that the Yoruba people can be classified as Brachycephalic. Based on this classification, we propose a unisex product of head dresses in Ergonomics, Radiology, Surgery and Health care managements of patients and subjects of Yoruba Ancestry.

Keywords: Cephalic index, Cephalic height, Cephalic breadth, Yoruba.

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ASN/ASC/19/040

Anthropometric Characteristics of in-race velocity Performance of Nigerian Professional Female Swimmers

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ABSTRACT

For swimming to be effective and efficient, various anthropometric factors are required and must be applied to achieve optimal performance. The aim of this study was to examine the anthropometric characteristics of in-race velocity performance of professional Nigerian female swimmers. Measurements of anthropometric parameters of 56 female professional Nigerian swimmers were sourced through direct anthropometric standard protocol. Thereafter statistical analyses using Pearson correlation and multiple regressions were conducted with the aid of SPSS version 23.0. The result showed that anthropometry explained 30% ($p < 0.05$) of the variance in the velocity of 50-m butterfly swimming competition among female Nigerian swimmers. Correlation studies showed that weight, BMI, % body fat, arm girth, chest girth and thigh correlated significantly, albeit weakly, whereas age, weight, arm span and hip girth correlated negatively with swimmers velocity. In conclusion, optimal performance of Nigerian swimmers in the 50-m butterfly swimming is determined predominantly by anthropometric variables involved in swimming.

Keywords: Anthropometry, performance, butterfly swimming, Nigeria swimmers

ASN/ASC/19/041

Anthropometric Foot Indices: An Analysis of foot Dimensions for Forensic application

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ABSTRACT

Evaluating primary parameters of identity are pivotal in forensic podiatry, a research area of anthropometry that deals with the identification of human subjects and dimensional body parts such as foot through measurement of the morphological peculiarities. There is thus a pressing need for Anatomists and bioanthropologists to develop more reliable methods for determining the ancestry of unidentified human remains with methodology that must become standardized, consistent, population specific to increase validity. This research seeks to establish how sex and ancestry identification can be assigned through the analysis of foot dimensions with the objective of establishing analytical relationship between foot dimensions, sex and ancestry with a view to derive regression formulae from individuals of the stratified population. The research involves collection of data from a volunteered number of 1200 adult populations (male and female) of South-East Nigerians. The samples were chosen randomly from South-East geopolitical zone of Nigeria in two geographical Ancestral divisions made by the River Niger as eastern and western sections respectively referred to as Uplander and Plateau ancestry groups across selected communities of the region. Eight measurements of foot dimensions taken include: foot length (FL), foot breadth (FB), foot breadth at heel (FBEL), foot height (FH), Ball of foot length (BFL), outside Ball of foot length (OBFL), foot arch length (FAL) and toe length (TL). Data was analyzed using the statistical package for social science (SPSS) version 23. Methods of analysis include descriptive and inferential statistics of mean and standard deviation. The analysis of variance (ANOVA) test was done to compare the foot size dimensions on the right and left side value. Thereafter, multivariate methods of correlation coefficient and logistic regression were generated. Confidence level was set at 95%, as P-values ≤ 0.05 was considered statistically significant. The findings show that, the morphometric value has higher mean values for female Uplander ancestry groups than Plateau in dimensions of FL, FAL and OBFL with a positive significance for the age groups ($p < 0.05$) and better correlated with sex and ancestry of an individual and thus can be accurately used in the prediction of same. Secondly, the multiple linear regression models generated using FL, FB, BFL and TL from the correlation statistics gives relationship for sex and ancestry and thus provides the highest reliability and accuracy formula relating ancestry with sex. This findings can be of immense value in medico-legal investigation, anthropological and most importantly in the creation of forensic classification software that will help in ancestry and sex determination by substitution of known foot dimension values as follows: $(\ln [p/(1-p)]) = 0.850 - 0.006FB - 0.001FH - 0.004OBFL + 0.019TS$ and $\ln [p/(1-p)] = 0.704 - 0.008FB_L + 0.020TS_L + 0.013SEX$.

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ASN/ASC/19/042

A Histological Study on the Effect of Gasoline Vapour Inhalation on the Olfactory System of Adult Wistar Rats

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ABSTRACT

The procedures conducted in this study were approved by the institutional animal ethics committee (034ANA3419). The human olfactory system is a highly sensitive detector of volatile chemicals such as gasoline. This work was carried out to assess the effect of short-term gasoline vapour exposure on the olfactory system. 35 Wistar rats (180-240g) were divided into 7 groups (n=5). Group 1 served as the control, groups 2-7 were exposed to 500mls of gasoline (5- 30 minutes) for 21 days. An air quality monitor (aeroqual series 500) was used to measure the amount of gasoline evaporated. The histological and neurohistological examination of the olfactory epithelium, olfactory bulb and olfactory cortex were carried out (heamatoxylin and eosin, cresyl fast violet) to observe any alteration in the normal histological structure of the structures. The levels of SOD, MDA and CAT were determined. Loss of sustentacular cells, apical surface of the olfactory epithelium and proliferation of basal cells was observed. Degeneration, pyknosis, karyolysis and hypertrophy of the mitral cells in the olfactory bulb was observed. Hypertrophy, pyknosis and loss of pyramidal cells were observed in the olfactory cortex. The staining intensity of the olfactory bulb varied from intense to moderate to faint. The staining intensity for the olfactory cortex ranged

from moderate to faint. MDA levels increased ($p < 0.05$), SOD decreased ($p > 0.05$) while CAT decreased ($p < 0.05$). Short term exposure to gasoline has adverse effects on the structures of the olfactory system and induces oxidative stress.

Keywords: Olfactory, Gasoline, histological, Hypertrophy, Pyknosis

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ASN/ASC/19/043

Effects of *n*-butanol extract of *Cannabis sativa* L. on Nissl substance and Acetylcholinesterase (AChE) activity in the Cerebrum of Adult Wistar Rats

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ABSTRACT

Cannabis (marijuana) abuse has been on the increase and has become a source of concern globally. Extensive research has been done on the effect of smoked *Cannabis* on acetylcholinesterase activity. However, the effect of marijuana wax (similar to *n*-butanol extract) on the activity of acetylcholinesterase remains elusive. Therefore, in this study we examined the effects of *n*-butanol extract of *Cannabis sativa* L. on Nissl substance and Acetylcholinesterase (AChE) activity in the Cerebrum of adult Wistar Rats.

Eighteen adult Wistar rats weighing (120 – 140 g) were divided into three (3) groups of six rats each. Wistar rats in group 1 (control) were given distilled water, while groups 2 and 3 were administered with 250 mg/kg and 500 mg/kg of *n*-Butanol extract of *Cannabis sativa* L. respectively via oral route, daily for 3 weeks. Cresyl Fast Violet (CFV) stain was used to demonstrate Nissl substance in the cerebral cortex and Acetylcholinesterase (AChE) activity was assessed in the cerebrum using Ellman's technique.

The results from this study revealed weak staining for Nissl substance and an insignificant increase ($p > 0.05$) in AChE activity in group 2, and 3 when compared with the control. In conclusion, administration of *Cannabis sativa* L. caused chromatolysis but did not significantly alter the activity of Acetylcholinesterase.

Keywords: *Cannabis*, Acetylcholinesterase, Nissl substance, Cerebrum

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ASN/ASC/19/044

The Effect of Coconut Oil (*CocosNucifera* L.) on the Histology of the Testis and Sperm Parameters of Adult Male Albino Wistar Rats

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ABSTRACT

Coconut oil has been said to be beneficial in several ways to man. The oil plays a great role in skin care, hair care, stress relief, weight loss e.t.c. This study was designed to investigate the effect of different doses of coconut oil on the histology of the testis and the sperm parameters of male albino rats. Twenty adult male Wistar rats with an average weight of 150g were randomly divided into four (4) groups of five rats each. The rats in the control group were administered with distilled water while those in the low, moderate and high dose groups were administered with coconut oil extract of 0.5, 1.1 and 2.2ml/kg body weight respectively once daily for fourteen days. On the 15th day of the experiment, the rats were weighed and sacrificed. The testes of rats from various groups were carefully dissected out and weighed.

There was significant decrease ($p < 0.05$) in mean testicular weight of the treated rats. Sperm motility was also significantly ($p < 0.05$) increased across the groups. Sperm viability increased across the groups. Also, sperms with normal morphology increased ($p < 0.05$) across the groups. Consequently, the sperm count was increased ($p < 0.05$) significantly in the animals administered with coconut oil across the groups. The histological sections revealed proliferation of seminiferous epithelium especially that of the high dose group thus coconut oil has no deleterious effect on the histology of the testes and sperm parameters and can lead to increased spermatogenesis.

Keywords: *Cocosnucifera*, testis, histology, sperm parameters, coconut oil

ASN/ASC/19/045

Morphometric and Histological Studies of Effects of Aqueous Extract of Costusafer Stem Juice on Cutaneous Wound of Albino Rats

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ABSTRACT

Skin regeneration is a major challenge of adult mammals that has only been overcome with elaborate and expensive procedures. This calls for the search for cheaper and readily available wound regeneration products. Thus, this study was to investigate the wound healing potential of Costusafer stem juice, which has been shown to contain pro-healing biomolecules and minerals. Twenty-five adult female albino rats weighing between 243-320g were used for the study. Ethical approval was obtained from the institution's Animal Ethical Committee. The rats were divided into 5 groups of group A without treatment; group B, iodine treatment only on the first day; group C, iodine treatment for 7 days; group D, Costusafer paste treatment only on the first day; and group E, Costusafer paste treatment for 7 days. They were wounded on their dorsum under ketamine hydrochloride anaesthesia and were treated according to their groups upon haemostasis. Rate of contraction and re-epithelialization were evaluated using digital ruler. The tensile strength of healed skin was measured using a tensiometer. Samples of the healed tissue were collected for H&E and Masson's trichromehistological assessment. Groups D and E wounds treated with Costusafer extract maintained an uninfected moist wound environment despite being open to the atmosphere. The rate of re-epithelialization was significantly highest in group D which also had a significantly highest tensile strength of 692.2g at $p < 0.05$. There was no significant difference in the rate of contraction. H&E and Masson's trichrome sections showed randomly organized collagen fibres in groups D and E. There was also indication of growing hair follicles in group D. Therefore, aqueous extract of Costusafer stem was shown to be more effective in wound healing than iodine. With advanced investigations, it could provide a convenient, common and affordable wound healing agent that can lead to skin regeneration.

Keywords: wound healing, tissue regeneration, moist wound healing, Costusafer stem, tensile strength, dermal organization, re-epithelialization

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ASN/ASC/19/046

Effects of Crude Aqueous Extract of *Morinda Lucida* Leaf Extract On The Histology Of Liver Of Adult Wistar Rats (*Rattus Norvegicus*).

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ABSTRACT

Morindalucida has been reported to have anti-inflammatory effect that characterizes liver disease but from this study it shows that this report was not achieved until when the extract was withdrawn and the administration of vitamin C along with the aqueous extract acts as anti-oxidant to protect the effect of any likely damage done to the liver. This research work examined the effect of *Morindalucida* during administration, upon withdrawal and the protective effect of concomitant administration of vitamin C and the extract. A total of 20 wistar rats (120g-160g) were used for this research. The rats were randomly selected into four groups of five animals each. Group A were used as control given only water ad libitum. Group B were given 6400 mg/kg aqueous extract of *Morindalucida* for 4 weeks, group C were given 6400 mg/kg/bw aqueous extract of *Morindalucida* for 4 weeks and withdrawn for two weeks while group D were given 6400 mg/kg/bw of the extract simultaneously with 5mg of vitamin C for 6 weeks. The rats were then sacrificed and the organ excised, weighed and fixed for histological processing and stained with hematoxylin and eosin. The photomicrographs of the control and the treated groups were observed and compared for changes and differences. The findings showed sign of inflammatory changes secondary to administration, upon withdrawal, there appear to be reversal of the effect. However, concomitant administration of vitamin C shows evidence of protective effect. *Morindalucida* has an inflammatory effect on the liver but there is a reversible effect upon withdrawal and the concurrent administration of vitamin C as anti-oxidant has a protective effect on the damage done to the liver.

Keywords: *Moringalucida*, Liver, *Rattus norvegicus*

ASN/ASC/19/047

Rebranding the Anatomical Concepts and Contexts: Feats from Assonites of Olabisi Onabanjo University

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ABSTRACT

Have you heard of Adé etán Adénrelé, the embattled Anatomist on the brim of jail time and possible execution by the Sudanese Government? He was arraigned before a Sudanese High Court for executing a dissection procedure on the country's soil. Docked as an accused in the open court, he became the subject of legal debate between a defending and prosecuting counsel constituted by Anatomy lawyers, who sought respectively to either exonerate or convict him, using their knowledge of Anatomical relevancies. Thus was the debate scene fictionalised by Anatomy students of the Olabisi Onabanjo University (OOU), as part of activities designed to celebrate their annual student week for the 2018/19 academic session. The students, in a largely self-coordinated dispensation, led by their president, embodied the youthful agility and innovative enthusiasm known of the Nigerian mind in the programme, as they hinged the debate on the professionalisation of Anatomy during a symposium centred on Anatomical career relevance and general entrepreneurship. With points ranging from the religious sacralisation of a corpse and the qualification/certification of the accused, to his dissection motives and protocols, the "counsels", drawn from the 200, 300 and 400 level B.Sc Anatomy classes, argued their cases between the perception of Anatomy as a merely overrated science of dissection, and its professionalisability in light of its diverse prospects. More to the festive activities was the grand finale of a 4-day long premier edition of the Anatomy Ultimate Search, during which 'Anatomy warriors' searched the nook and cranny of Juzanba village to retrieve the remains of a great Anatomist, who was wrongly captured and sacrificed to the Village gods for dissecting a day old cadaver, for educational and research purpose. "Show them the way, and they shall perform wonders" is a known mantra in the training of budding leaders. The Anatomy students of OOU have indeed lived true to this in their feats towards rebranding, conceptualising and contextualising Anatomy, as the nation yearns for an education-driven development.

Keywords: Anatomy, Education, Professionalisation, OOU, Rebranding, Contexts