in comparison with the gyrencephalic human brains were seldom explored. Aim: The present study was designed to investigate the neuroanatomical effects of test drugs rutin and gefitinib in beta-amyloid (Aβ) oligomer-induced AD in male Swiss albino mice and to further explore the gross anatomical similarities of lissencephalic AD mice brain with the gyrencephalic human brain. AD was induced by i.c.v. injection of Aβ oligomer into the lateral ventricles of mice brain. The test compound i.e., rutin (50 and 100 mg/kg of body weight) and gefitinib (2 and 4 mg/kg of body weight) was administered orally (p.o.). The reference compound i.e., donepezil (1 mg/kg; p.o.) was administered for comparison of test compound results. At the end of experiment, animals were sacrificed, the mice brain was carefully dissected, length and breadth dimensions were measured and under the stereo microscope different parts of brain such as cerebral cortex, hippocampus, cerebellum and brainstem were precisely dissected and weighed. The AD-associated neuroanatomical changes were assessed by analysing the brain weight, body weight ratio and the ratio of different parts of brain with the whole brain. Data analysis has shown that administration of rutin and gefitinib had ameliorated the Aβ induced neuroanatomical changes Therefore, rutin and gefitinib can be an effective medicine for the management of Aβ-associated AD neuroanatomical changes and because the lissencephalic AD mice brain exhibited some similar gross anatomical changes of gyrencephalic human brain, these gross neuroanatomical findings of mice brain can be an additional parameter along with routine histological, radiological and biochemical parameters in the analysis of AD pathology.

The experimental protocol was approved by AIMST University Animal Ethics (AUAEC/FOM 2020/02 – Amendment No. 1). The caring of animals was taken as per guidelines of AUAEC.

T:5 | Preliminary notes on a human eared skull

Veronica Papa[1,2,3]; Elena Varotto[3,4]; Silvio del Pizzo[2,5]; Salvatore Troisi[2,5]; Fabiana Di Ciaccio[2,5]; Silvia Sofia Staiano[3]; Carmine Lubritto[6]; Stefano Vanin[7]; Mauro Vaccarezza[8,9]; Francesco Maria Galassi[3,4]

[1]*Department of Sport Sciences and Wellness, University of Naples "Parthenope", Naples, Italy;* [2]*School of Science, Engineering and Health, University of Naples "Parthenope", Naples, Italy;* [3]*Forensic Anthropology, Paleopathology, and Bioarchaeology (FAPAB) Research Center, Avola, Italy;* [4]*Flinders University, College of Humanities, Arts and Social Sciences, Archaeology, Adelaide 5001, SA, Australia;* [5]*Department of Sciences and Technologies, University of Naples "Parthenope" Naples, Italy;* [6]*Department of Environmental, Biological and Pharmaceutical Science and Technology University of Campania "Luigi Vanvitelli," Caserta, Italy;* [7]*Departmenf of Life Science, Environment and Earth (DiSTAV), University of Genoa, Genoa, Italy;* [8]*Curtin Medical School, Faculty of Health Sciences, Curtin University, Bentley, Perth, Western Australia, Australia;* [9]*Curtin Health Innovation Research Institute (CHIRI), Faculty of Health Sciences, Curtin University, Bentley, Perth, Western Australia, Australia*

The purpose of this study is to detail the unique case of the so-called eared skull, which resembles the 'Memento Mori' mosaic displayed at Museo Archeologico Nazionale (MANN) in Naples (Italy). The analysed skull is currently exhibited in the hypogeum of the musealised Church of Santa Luciella ai Librai in Naples (Italy). This study used a multidisciplinary approach combining archaeo-anthropological, chronological, entomological, palaeopathological and photogrammetric analyses.

Here we report some preliminary results. Human remains in the hypogeum were ^{14}C 1631-1668-1s. Entomological analysis revealed insects associated with body decomposition as well as with wooden coffins. Because of its fragility, in order to avoid any contact with the skull and to obtain a reliable and accurate 3D model, a photogrammetric survey was performed using a calibrated steel scale bar. The preserved skull consists of the neurocranium, while most of its splanchnocranium is absent (only the nasal bones are present). The temporal bones were outwardly rotated, which had been wrongly assumed to be mummified auricular structures in the past. The morphological study of the skull revealed it is that of an adult male, based on the application of the anthropological methods to determine sex and estimate age at death. Since the skull showed some pathological features and only the coronal suture was clearly visible, a more precise range for age at death of this individual cannot be estimated. Palaeopathologically, the absence of the sagittal suture and porotic hyperostosis were described. Taphonomically, bright white salty encrustations, possibly linked to the humid environment, were seen as well as a cerebral fragment was found inside the cranial cavity. Photogrammetric setup was realized by introducing calibrated scale bars on the survey scene, and rendering software was used to produce a digital 3D model. No ethical approval was required.

T:6 | Neuronal wiring length and brain shape in *Homo sapiens* and *Macaca mulatta* during postnatal development

Amy Manson[1,2]; Graham J. Kemp[2,3]; Nathan Jeffery[1,2]

[1]*Human Anatomy Resource Centre;* [2]*Institute of Lifecourse and Medical Sciences;* [3]*Liverpool Magnetic Resonance Imaging Centre (LiMRIC), University of Liverpool, UK*

The minimisation of neuronal wiring length has long been proposed as a major constraint on brain shape in highly encephalised species. We investigated the potential link between brain shape and a measure of overall neuronal wiring length during postnatal development in modern humans and Rhesus macaques. We analysed data from 58 humans (age 3–13 years) and 152 macaques (age 0.04–3 years). Diffusion tensor imaging (DTI) was used to create a measure of overall wiring length by combining fibre tract length measurements for the internal capsule and corpus callosum taken from diffusion tractography in a 3D slicer. A set of 17 anatomical landmarks representing the brain were placed in 3D Slicer using a T1-weighted MRI. Geometric morphometric (GMM) analyses were carried out on the landmarks in MorphoJ. In humans, there was little increase