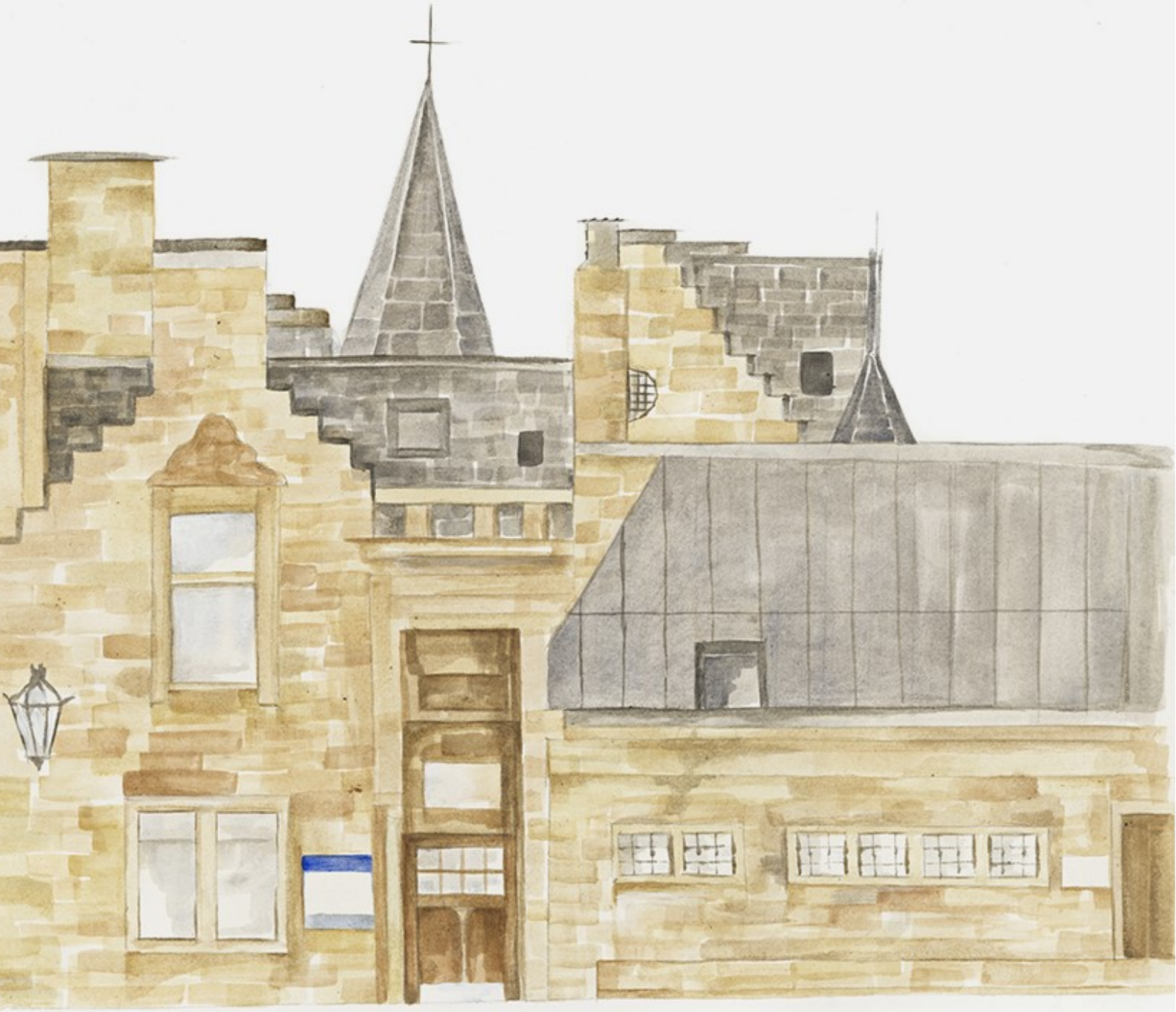
ANATOMICAL SOCIETY



Virtual Summer Meeting Programme

CUTTING EDGE ANATOMY

7th – 9th July 2021

show TBL to be as effective as alternative teaching methods. Interestingly, TBL enhanced the performance of poorly performing students with reduced failure rates, possibly by cultivating a skill of self-regulated learning, permitting students to identify areas of the curriculum they understand least and act accordingly. TBL is a relatively new method in the literature. The results of this systematic review demonstrate a good potential for TBL. Further research is recommended, especially on knowledge acquisition, to strengthen findings. In practice, TBL can be a good supplement to cadaveric dissection, as part of an integrated curriculum.
Ethical approval was not required for this systematic review.

P67. Human Cerebellum: White Matter Branching Patterns

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The cerebellar white matter exhibits a sophisticated tree-like branched appearance, also known as “arbor vitae cerebelli”. In this study we aimed to investigate patterns of white matter branching in human cerebellum. The study was carried out on cadaveric specimens: 230 cerebella (136 male and 94 female); age range of 20-99 years. Cerebella were obtained during forensic autopsies. Midsagittal sections of cerebella were investigated. We have described eight main branches of cerebellar white matter and revealed three types of their branching. 1st branch forms cerebellar lobule I (lingula), 2nd – lobule II (lobulus centralis I), 3rd – lobule III (lobulus centralis II); 4th – lobules IV-V (culmen); 5th branch – lobules VI-VII (declive, folium and tuber); 6th – lobule VIII (pyramis); 7th – lobule IX (uvula); 8th – lobule X (nodulus). We found that the 3rd branch was present only in 76 studied cerebella (33%). The branches of cerebellar white matter had 3 different patterns of branching. 1st-3rd and 8th branches had a single trunk of white matter without secondary branches or with small secondary branch situated near the visible surface of cerebellum. We described this pattern of branching as “simple”. 4th branch had common trunk divided into two secondary branches forming the lobules IV and V. Each secondary branch was divided into two tertiary branches, which were dichotomously divided into branches of following generations. We described this pattern of branching as “dichotomous”. 5th – 7th branches had similar patterns of branching. The main trunks of these branches were Y-like divided into two or three main branches. Each of main branches had variable number of secondary branches (1-3), but had no dichotomous pattern of further branching. We described this pattern of branching as “Y-like”. Thus, the tree-like architecture of cerebellar white matter determines structural complexity of human cerebellum and exhibits significant individual variability. The study was conducted in compliance with the current legislation in Ukraine and was approved by the Commission on Ethics and Bioethics of Kharkiv National Medical University.

P68. Ghrelin upregulates *Pax6* expression in dissociated cortical neurons of new-born rats in an *in vitro* model of ischemic stroke

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Recovery from stroke, a medical condition of impeded blood supply to the brain and oxygen shortage (hypoxia), harnesses a variety of developmentally related processes, which may include neurogenesis. In the healthy brain, adult neurogenesis is believed to be restricted to the subventricular zone and the dentate gyrus. However, there are some reports showing that in the process of recovery from stroke, neurogenesis can also occur in the cortex. A key player in neurogenesis is the transcription factor *Pax6.* Unlike the neurogenic niches, where hypoxia increases *Pax6* expression, the levels in the neocortex are downregulated. This raises the question of whether decreased neocortical expression of *Pax6* hampers recovery upon re-oxygenation. To answer this question, we used the hormone ghrelin (Ghr),