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Histology is now taught completely online, including laboratory practical exercises, using unique and innovative learning tools

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The teaching of histology is expensive particularly in some universities with limited or aging resources such as microscopes and inadequate histological slide collections and increasing numbers of students. Laboratory classes are staff intensive. Technology can now solve many of these issues and also caters for the self-directed and independent learning needs of students. This presentation will demonstrate a series of innovative learning resources that have enabled a histology course to be presented completely online – including practical classes. This histology course has not only been delivered to students attending my own institution but also to a number of other students attending universities worldwide but facilitated by histology instructors on the other side of the globe. Innovative learning tools include an updated interactive histology atlas and an interactive platform for viewing histological slides using virtual microscopy. Students can annotate their histological sections and view annotations of histological features as they view sections at any desired magnification. A learning platform also includes a series of assessment packages; discussion forums encourage student interactions with their peers as well as with histology instructors. One new additional resource and one highly acclaimed by students is a series of at least 31 professionally recorded lectures whereby students see their lecturer visually as well as viewing informative power-point slide presentations. Quantitative data from formal student evaluations verify that all traditional learning outcomes in an extensive histology curriculum delivered in medical, dental and biomedical science courses can be achieved.

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Morphological study of the foramen transversarium of the atlas vertebra among Egyptian population and its clinical significance

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Background: Foramina transversaria are characteristic bony features of the cervical vertebra and are located on the transverse process of cervical vertebrae. These foramina are of anatomical importance as they provide bony passages for several anatomical structures namely vertebral artery, vertebral vein and sympathetic nerves. They have known to exhibit variations with regard to size, shape and may even absent, incomplete or duplicated.

Objective: This study aims to investigate the morphology and variations of foramina transversaria of the human atlas vertebrae and to point out the clinical importance of these variations.

Material & Methods: 135 atlas vertebrae of Egyptian origin were studied. They were available in the dissecting room of the anatomy department, Faculty of Medicine, Cairo University. Each vertebra was studied morphologically for the presence of various shapes of foramen transversarium, presence or absences of any morphological anomaly like accessory foramen or incomplete foramen.

Results: Four shapes were noted. Type 1 (rounded) was predominant 54.1%, type 2 (oval) less prominent 29.6%, type 3 (irregular) 10.4% and type 4 (quadrangular) 5.8%. Double foramina were founded in 23 vertebrae, incomplete foramina in 9 vertebrae and accessory incomplete foramina were seen in 12 vertebrae.

Conclusion: The morphological knowledge of this type of variation is clinically important because the course of the vertebral artery may be distorted in such condition. It may be compressed leading to some neurological symptoms or even hearing disturbances. Also, the knowledge of this type of variation is important for the neurosurgeon during posterior surgical approaches of cervical spine. It is also useful for radiologist during CT and MRI scan.

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