ANATOMICAL VARIATIONS OF THE KIDNEYS AND THEIR VENOUS DRAINAGE: SOURCES OF IMAGING INTERPRETATION PITFALLS IN THE TRANSPYLORIC PLANE

Klinkhachorn P. S. [1], *Umstot S. I.* [1], *Ruiz K. M.* [1], *Ritz B. K.* [2], *Nestor N. S.* [2], *Zdilla M. J.* [1, 2, 3]

[1] Department of Pathology, Anatomy, and Laboratory Medicine, West Virginia University School of Medicine, Morgantown, West Virginia, United States; [2] Department of Natural Sciences & Mathematics, West Liberty University, West Liberty, West Virginia, United States; [3] Department of Graduate Health Sciences, West Liberty University, West Liberty, West Virginia, United States
pklinkhachorn@hsc.wvu.edu

Key words: *kidney, blood supply, anatomical variations*

Anatomical variations of the kidneys and their vasculature may lead to confusion on imaging interpretation and subsequent misdiagnosis, surgical confusion, and, potential life-threatening bleeding complications. Typical axial imaging findings in the transpyloric plane include smooth convexity of the kidney, renal veins located anterior to renal arteries, and renal veins that drain to a singular inferior vena cava. This report highlights a series of cadaveric observations with include persistent lobulation of the kidney, duplication of the inferior vena cava, and retroaortic location of the renal vein. An understanding of these anatomical variations will prevent imaging interpretation errors and aid in the diagnosis and treatment of patients with anatomical variation of the kidneys and their vasculature.

ANATOMICAL VARIATIONS OF THE UPPER LIMB ARTERIES

Klochkova S. V. [1], *Nikityuk D. B.* [2], *Alexeeva N. T.* [3], *Kvaratskheliya A. G.* [3], *Sokolov D. A.* [3]

[1] I. M. Sechenov Fist State Medical University, Moscow, Russia; [2] Federal Research Centre of the Nutrition, the Biotechnology and the Food Safety; [3] N. N. Burdenko Voronezh State Medical University, Voronezh, Russia

Key words: *upper limb, blood supply, variations, anatomy*

Material and Methods. Within the training preparation of a male corpse, fixed with a 10% formalin solution, we found the following anomalies in the structure of the arteries of the left upper limb.

Results and Discussion. The ulnar artery had an abnormally high origin. It branch off in the medial direction from the distal axillary artery in the projection of trigonum subpectorale below the site of the subscapular artery. Then it descended along the front surface of the shoulder in a medial biceps groove, accompanied by elements of the main neurovascular bundle. In the lower third of the arm, the artery deviated medially and, along with the ulnar nerve, lay on the posterior surface of the medial epicondyle. On the forearm, the ulnar artery was located in the eponymous furrow between the superficial flexor of the fingers of the hand and the ulnar flexor of the wrist, then continued on the palmar surface of the hand between the short arm muscle and the flexor retainer. Departures of the anterior and posterior recurrent elbow branches from the ulnar artery were not observed. The common interosseous artery in the case studied originated from the radial artery by a short trunk less than 1 cm and was divided into the anterior, posterior interosseous arteries and a branch directed toward the anterior surface of the elbow joint. From the posterior interosseous artery, in addition to the reciprocal interosseous artery, an additional vessel moved to the back surface of the elbow joint. The upper and lower collateral ulnar arteries started from the brachial artery with a single trunk, which was then divided into two branches.

Aim. The case of a variant arrangement of arteries described by us should be taken into account in operative interventions on the upper limb.

LYMPHOID STRUCTURES OF THE RAT SPLEEN UNDER EXPERIMENTAL CONDITIONS

Klochkova S. V. [1], *Bakhmet A. A.* [1], *Koplik E. V.* [2]

[1] Sechenov First Moscow State Medical University of the Ministry of Healthcare of the Russian Federation (Sechenov University); [2] P. K. Anokhin Research Institute of Normal Physiology, RAMS, Moscow

Key words: *spleen, lymphoid structures, stress, emotions*

Material and Methods. The microtopography of lymphoid structures of spleen of 212 Wistar male rats with different types of individual resistance to stress effects of experimental and control groups under emotional stress influence with preliminary injection of delta-sleep inducing peptide (DSIP) was studied.

Results and Discussion. The percentage of lymphocytes in periarterial lymphoid sheath (PALS) in the spleen of rats, an hour after emotional stress (ES), decreased by an average of 1.2 times in comparison with the control groups animals. The content of lymphocytes after the injection of DSIP without stress in stable to stress rats increased to 62.3% or 14.5±0.2 cells (in control 50.9% or 13.6±0.1 cells) ($p<0.05$). In predisposed to stress rats after the injection of DSIP without stress, the content of this cells increased to 53.2% or 21.6±0.1 cells, (in control — 39.2% or 17.6±0.07 cells) ($p<0.05$). The lymphocyte content after one-hour stress influence with the preliminary injection of DSIP in resis-