

**Materials and methods.** Article: “What are the ten new commandments in severe polytrauma management?” - CW Kam, CH Lai, SK Lam, FL So, CL Lau, KH Cheung (World J Emerg Med, Vol I, No 2, 2010); Article: “Damage control orthopedics –when and why” – James H. Carson, M.D; Основы топографической анатомии – Д.Н.ЛУБОЦКИЙ; Множественные и сочетанные травмы – В.А.СОКОЛОВ;

**Results.** The functions of the internal thoracic organs are diverse, but the main ones are the breath and circulation of the blood. Cardiorespiratory disorders are the basis of all pathophysiological disorders in the case of chest trauma. These require emergency prevention and treatment. In the case of thoracic trauma, these conditions are most often interdependent and remain the main causes of death of each third victim with combined chest injuries, although 15% of the victims have no fatal injuries.

**Conclusions.** The severity of the condition does not depend so much on the trauma of certain organs, but on the disorders of vital functions caused by general pathophysiological mechanisms. Examples may be: shock (shock lung), acute heart failure, acute respiratory failure, bronchodilatory syndrome (key moment - edema, dyskinesia, and sputum bronchiolysis). Regardless of the cause of the trauma, the victims of thoracic trauma form several typical syndromes that determine the diagnosis, the treatment tactic and the nature of the typical complications. The main syndromes are hemothorax, pneumothorax, subcutaneous emphysema and mediastinal emphysema.

**Key words:** Chest cavity, trauma, chylothorax, hemothorax, pneumothorax, subcutaneous emphysema, mediastinal emphysema. Shock, acute heart failure, acute respiratory failure, bronchodilatory syndrome.

## DEPARTMENT OF HISTOLOGY, CYTOLOGY AND EMBRYOLOGY

### 265. LYMPHATIC VESSEL DENSITY AND ITS IMPLICATIONS IN BREAST CANCER

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**Introduction.** Among females, breast cancer is the most commonly diagnosed cancer and the leading cause of cancer death. Lymph node metastasis is one of the most important survival predictor in patients with cancers, this being crucial for tumor staging and therapy planning. Studies suggest that metastasizing is directly correlated with the density of lymphatic vessels in the tumor itself and in the peritumoral area.

**Aim of the study.** The goal of our study was to study lymphatic vessels' distribution (intratumoral vs peritumoral areas) as well as the relationships between tumor lymphangiogenesis and various parameters (such as hormone receptors and HER2 status, patients' age, tumor grade).

**Materials and methods.** We analyzed 84 cases of breast carcinomas in terms of their molecular profile and lymphatic vessels' density determined in the intratumoral stroma (D2-40it) and peritumoral area (D2-40pt), using the lymphatic endothelium marker D2-40. The

relationships with different molecular subtypes of breast cancer and main clinical parameters were also analyzed.

**Results.** Maximal values of both D2-40it and D2-40pt were achieved in case of triple-negative breast carcinomas (19 and 17, respectively). For luminal A, a positive correlation was detected between D2-40it and ER ( $r=0,611$ ,  $p=0,012$ ) and a negative correlation between D2-40pt and age ( $r=-0,533$ ,  $p=0,033$ ). D2-40pt positively correlated with D2-40it ( $r=0,676$ ,  $p=0,011$ ) in HER2+ subtype and in triple-negative breast carcinomas ( $r=0,631$ ,  $p=0,028$ ). D2-40pt negatively correlated with age in triple-negative subtype ( $r=-0,584$ ,  $p=0,046$ ). Analyzing overall molecular subtypes, we have found a positive correlation between D2-40it and tumor's grade ( $r=0,289$ ,  $p=0,008$ ). Intratumoral lymphatic vessels' amount negatively correlated with age ( $r=-0,242$ ,  $p=0,026$ ), hormone receptors ER ( $r=-0,339$ ,  $p=0,002$ ) and PR ( $r=-0,245$ ,  $p=0,024$ ). In G2 and G3 tumors, D2-40pt correlated with D2-40it ( $r=0,542$ ,  $p=0,000069$  and  $r=0,558$ ,  $p=0,000206$  respectively). In case of G3 tumors intratumoral lymphatic vessels negatively correlated with ER+ carcinoma cells ( $r=-0,406$ ,  $p=0,016$ ) and patients' age ( $r=-0,432$ ,  $p=0,009$ ).

**Conclusions.** There are few data about interrelations between intratumoral and peritumoral lymphatic vessels in breast cancer. Intratumoral lymphatic vessel density is strongly influenced by the expression of hormone receptors. Our findings also suggest that lymphangiogenesis rate is higher in younger patients. The development of intratumoral and peritumoral lymphatic vessels is directly related.

**Key words:** breast carcinoma, D2-40, LVD, tumor microenvironment, molecular subtypes, ER, PR

## 266. NEUROHYPOPHYSIS: STRUCTURAL,PHYSIOLOGICAL AND CLINICAL ASPECTS

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**Introduction.** Much has been written regarding the ultrastructure of the human adenohypophysis, on the other hand, relatively little is available on the the neurohypophysis.

**Aim of the study.** To apprehend the purpose of this unique tissue; to explore the embryology physiology and pathophysiology of the neurohypophysis, vasopressin and oxytocin; to highlight developments on the neural basis of osmo-sensing mechanism; to describe vasopressin and oxytocin regarding the molecular biology and to underline some of the disease processes in which both the structure and functions of the those two hormones are involved.

**Materials and methods.** Analysis of literature and synthesis of scientific data from studies (microscopically evidence and clinical tryouts)

**Results.** The posterior pituitary is derived from the forebrain/prosencefalon during development and is composed predominantly of neural tissue. It lies below the hypothalamus, with which it forms a structural and functional unit: the neurohypophysis. The supraoptic nucleus (SON) is situated along the proximal part of the optic tract. It consists of the cell bodies of discrete vasopressinergic (VP) and oxytotic(OX) magnocellular neurons projecting to the posterior pituitary along the supraoptico-hypophyseal tract. The paraventricular nucleus (PVN)