РЕЗЮМЕТА НА АНГЛИЙСКИ ЕЗИК

НА ПУБЛИКАЦИИТЕ ИЗВЪН ПРЕДСТАВЕНИТЕ ЗА ХАБИЛИТАЦИОНЕН ТРУД ЗА КАНДИДАТСТВАНЕ

ЗА ДЛЪЖНОСТТА „ПРОФЕСОР“ ПО ОБЯВА В ДВ №45/28.05.2024 Г.

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Г7.1. Kostov S, Kornovski Y, **Slavchev S**, Ivanova Y, Yordanov A. **Okabayashi’s pararectal space**. ANZ Journal of Surgery. 2024;94(6):1177–9.

Abstract: A thorough understanding of the anatomy of avascular female pelvic spaces is crucial for performing retroperitoneal gynecological surgical procedures. The borders and structures of Okabayashi's pararectal space (OPS) are delineated and illustrated with schemes and photographs in the article. The pelvic space discussed is a topic that is currently the subject of debates and disagreements. Okabayashi in Japan first described it during radical hysterectomy for the surgical treatment of uterine cervix cancer. The limits of the OPS are: ventral – the lateral parametrium, dorsal – the sacrum; cranial – the parietal peritoneum; caudal – the pelvic floor; lateral – the ureter together with the mesoureter and hypogastric nerve (HN); medial – the caudal part of the dorsal parametrium (DP) – the rectovaginal ligament (RVL). The lateral border is represented by three structures as they lie in the same vertical axis. The HN is located 2–3 caudal to the ureter. The DP is composed of uterosacral ligament ([USL]-cranial part) and RVL (caudal part). The dissection of the OPS starts after opening of the posterior leaf of the broad ligament. The ureter, the USL and the RVL are identified and dissected. The initial separation of the mesoureter should be carried out close to the RVL until the HN is identified. Dissection of the OPS where the RVL serve as a medial landmark, allows safe lateralization of the ureter together with the mesoureter and HN. Consequently, the RVL could be transected without resection of the HN during nerve-sparing radical hysterectomy. Inconsistencies and disparity of the limits of OPS are clearly seen regarding its medial border—the RVL. We believe the medial border of the OPS should solely be the RVL.

Г7.2. Kostov S, Selçuk I, Watrowski R, Dineva S, Kornovski Y, **Slavchev S**, Ivanova Y, Yordanov A. **Neglected Anatomical Areas in Ovarian Cancer: Significance for Optimal Debulking Surgery.** Cancers. 2024;16(2):AN 285.

Abstract: Ovarian cancer (OC), the most lethal gynecological malignancy, usually presents in advanced stages. Characterized by peritoneal and lymphatic dissemination, OC necessitates a complex surgical approach usually involving the upper abdomen with the aim of achieving optimal cytoreduction without visible macroscopic disease (R0). Failures in optimal cytoreduction, essential for prognosis, often stem from overlooking anatomical neglected sites that harbor residual tumor. Concealed OC metastases may be found in anatomical locations such as the omental bursa; Morison's pouch; the base of the round ligament and hepatic bridge; the splenic hilum; and suprarenal, retrocrural, cardiophrenic and inguinal lymph nodes. Hence, mastery of anatomy is crucial, given the necessity for maneuvers like liver mobilization, diaphragmatic peritonectomy and splenectomy, as well as dissection of suprarenal, celiac, and cardiophrenic lymph nodes in most cases. This article provides a meticulous anatomical description of neglected anatomical areas during OC surgery and describes surgical steps essential for the dissection of these "neglected" areas. This knowledge should equip clinicians with the tools needed for safe and complete cytoreduction in OC patients.

Г7.3. Kostov S, Kornovski Y, Watrowski R, **Slavchev S**, Ivanova Y, Yordanov A. **Internal Iliac Artery Ligation in Obstetrics and Gynecology: Surgical Anatomy and Surgical Considerations.** Clinics and Practice. 2024;14(1):32–51.

Abstract: The internal iliac artery (IIA) is the main arterial vessel of the pelvis. It supplies the pelvic viscera, pelvic walls, perineum, and gluteal region. In cases of severe obstetrical or gynecologic hemorrhage, IIA ligation can be a lifesaving procedure. Regrettably, IIA ligation has not gained widespread popularity, primarily due to limited surgical training and concerns regarding possible complications, including buttock claudication, impotence, and urinary bladder and rectum necroses. Nowadays, selective arterial embolization or temporary balloon occlusion are increasingly utilized alternatives, which can be applied preoperatively or intraoperatively for

threatening severe genital or pelvic bleeding. However, IIA ligation retains its relevance, as the previously described procedures are not always available and have limitations. This article provides a step-by-step guide to the IIA ligation procedure and its possible complications. It also includes a detailed description of the anatomy of the IIA and pelvic arterial anastomoses. This review highlights the importance of a thorough understanding of pelvic anatomy as a prerequisite for safe IIA ligation and posits that training in this procedure should be an integral part of obstetrics and gynecology curricula.

Г7.4. Kostov S, Kornovski Y, Yordanov A, Watrowski R, **Slavchev S**, Ivanova Y, Ganev T, Yalçın H, Selçuk I. **Surgical Anatomy and Dissection of the Hypogastric Plexus in Nerve-Sparing Radical Hysterectomy.** Diagnostics. 2024;14(1):AN 83.

Abstract: Radical hysterectomy is a central surgical procedure in gynecological oncology. A nerve-sparing approach is essential to minimize complications from iatrogenic injury to the pelvic nerves, resulting in postoperative urinary, anorectal, and sexual dysfunction. The hypogastric plexus (HP), a complex network of sympathetic and parasympathetic nerves, plays a critical role in pelvic autonomic innervation. This article offers a comprehensive overview of the surgical anatomy of the HP and provides a step-by-step description of HP dissection, with a particular emphasis on preserving the bladder nerve branches of the inferior HP. A thorough understanding and mastery of the anatomical and surgical nuances of HP dissection are crucial for optimizing outcomes in nerve-sparing gynecologic-oncological procedures.

Г7.5. Slavchev S, Yordanov A. **Enhanced Recovery After Surgery (ERAS) protocol in minimally invasive gynecological surgery: a review of the literature.** Polski Przeglad Chirurgiczny/ Polish Journal of Surgery. 2023;95(3):23–40.

Abstract: Enhanced Recovery After Surgery (ERAS) is a complex system of procedures that necessitates multidisciplinary patient care during the preoperative, intraoperative, and postoperative phases. Over the last two decades, the ERAS protocol, which was initially described

in colorectal surgery, has gradually expanded to other surgical specialties. Gynecological surgery is no exception, whether for benign or malignant conditions. The ERAS program's primary objective is to overcome the pathophysiological processes associated with surgical stress and to facilitate the patient's rapid recovery, while minimizing complications, hospital stays, and costs. The objectives of minimally invasive surgical procedures largely overlap with the objectives of the ERAS program. The central question is whether the ERAS protocol can provide additional benefits beyond those inherent in minimally invasive surgical procedures. We analyzed scientific data from studies examining the ERAS system's application in minimally invasive gynecological surgery (MIGS) and present them in this review. We present a summary of the research findings on the ERAS system's effectiveness and safety as measured by the following parameters: length of hospital stay or same-day discharge, pain control and opioid use, and complication rates when compared to the standard approach. Despite the heterogeneity of the studies, evidence supports the benefits of using the ERAS program in minimally invasive gynecologic surgery, possibly due to the personalized patient care and specific activities that place the patient in more physiological conditions.

Г7.6. Kostov S, Selcuk I, Watrowski R, Dineva S, Kornovski Y, **Slavchev S**, Ivanova Y, Dzhenkov D, Yordanov A. **Surgical Anatomy of the Liver - Significance in Ovarian Cancer Surgery.** Diagnostics. 2023 Jul;13(14):2371.

Abstract: Introduction: Ovarian cancer is the leading cause of death among all gynecological malignancies. Most patients present with an advanced stage of the disease. The routes of spread in ovarian cancer include peritoneal dissemination, direct invasion, and lymphatic or hematogenous spread, with peritoneal and lymphatic spread being the most common among them. The flow direction of the peritoneal fluid makes the right subphrenic space a target site for peritoneal metastases, and the most frequently affected anatomical area in advanced cases is the right upper quadrant. Complete cytoreduction with no macroscopically visible disease is the most important prognostic factor. **Methods:** We reviewed published clinical anatomy reports associated with surgery of the liver in cases of advanced ovarian cancer. Results:

The disease could disseminate anatomical areas, where complex surgery is required—Morrison's pouch, the liver surface, or porta hepatis. The aim of the present article is to emphasize and delineate the gross anatomy of the liver and its surgical application for oncogynecologists. Moreover, the association between the gross and microscopic anatomy of the liver is discussed. Additionally, the vascular supply and variations of the liver are clearly described. **Conclusions:** Oncogynecologists performing liver mobilization, diaphragmatic stripping, and porta hepatis dissection must have a thorough knowledge of liver anatomy, including morphology, variations, functional status, potential diagnostic imaging mistakes, and anatomical limits of dissection.

Г7.7. Kostov S, Dineva S, Kornovski Y, **Slavchev S**, Ivanova Y, Yordanov A. **Vascular Anatomy and Variations of the Anterior Abdominal Wall – Significance in Abdominal Surgery.** Prague Medical Report. 2023;124(2):108–42.

Abstract: Detailed knowledge of the human anatomy is an integral part of every surgical procedure. The majority of surgery related complications are due to a failure to possess appropriate knowledge of human anatomy. However, surgeons pay less attention of the anatomy of the anterior abdominal wall. It is composed of nine abdominal layers, which are composed of fascias, muscles, nerves, and vessels. Many superficial and deep vessels and their anastomoses supply the anterior abdominal wall. Moreover, anatomical variations of these vessels are often presented. Intraoperative and postoperative complications associated with entry and closure of the anterior abdominal wall could compromise the best surgical procedure. Therefore, sound knowledge of the vascular anatomy of the anterior abdominal wall is fundamental and a prerequisite to having a favourable quality of patient care. The purpose of the present article is to describe and delineate the vascular anatomy and variations of the anterior abdominal wall and its application in abdominal surgery. Consequently, the most types of abdominal incisions and laparoscopic accesses will be discussed. Furthermore, the possibility of vessels injury related to different types of incisions and accesses will be outlined in detail. Morphological characteristics and distribution pattern of the vascular system of the anterior abdominal wall is illustrated by using figures either from open surgery, different types of imaging modalities or embalmed

cadaveric dissections. Oblique skin incisions in the upper or lower abdomen such as McBurney, Chevron and Kocher are not the topic of the present article.

Г7.8. Yordanov AD, **Slavchev S**, Kostov S, Strashilov S. **A rare case of endometrial cancer, developed as a result of adjuvant radiotherapy for cervical cancer.** Gazzetta Medica Italiana Archivio per le Scienze Mediche. 2022;181(5):375–7.

Abstract: Radiotherapy is the mainstay of the management of women with advanced cervical cancer. combination with chemo-therapy additionally prolongs survival of the patients. long-term radiation-induced complications such as secondary malignancies occur long years after the initial treatment and are difficult to manage. We presented the case of a 72-year-old patient, submitted to surgery in our clinic for a high-grade endometrial cancer, stage FIGO IIIA (PT3APN0M0). It occurred 3 years after definitive radiotherapy for cervical cancer FiGO stage IIB. as the endometrial cancer was not present at the time of diagnosis of the cervical, we consider it, despite the relatively short interval time, as a secondary radiation-induced endometrial cancer. radiation-induced secondary malignancies in the pelvis are characterized with shorter survival rates, worse prognosis, higher stage at diagnosis and poor histological features such as grade or histologic subtype as compared to primary ones.

Г7.9. Kostov S, Selçuk I, Yordanov A, Kornovski Y, Yalçın H, **Slavchev S**, Ivanova Y, Dineva S, Dzhenkov D, Watrowski R. **Paraaortic Lymphadenectomy in Gynecologic Oncology-Significance of Vessels Variations.** Journal of Clinical Medicine. 2022;11(4):AN 953.

Abstract: Lymphadenectomy has been an essential part of the surgical treatment in surgical oncology, as the lymphatic channels and nodes are the main dissemination pathway for most of the gynecological cancers. Pelvic and paraaortic lymphadenectomy are frequent surgical procedures in gynecologic oncology. Paraaortic lymph node dissection facilitates staging, prognosis, surgical and postoperative management of patients. It is one of the most challenging retroperitoneal surgeries. A comprehensive knowledge of the paraaortic region is mandatory.

Intraoperative bleeding is the most common complication during lymphadenectomy due to direct vascular injury, poor tissue handling, exuberant retraction and possible anatomical variations of the vessels in the paraaortic region. Approximately, one-third of women will have at least one anatomic variation in the paraaortic region. It must be stressed that anomalous vessels may be encountered in every woman who will undergo surgery. Consequently, detailed knowledge of anatomical vessels variations is required in order to prevent iatrogenic vessel injury. The importance of these variations is well described in urology, vascular and general surgery. Conversely, in oncogynecological surgery, there are few articles, which described some of the vessel‘s variations in the paraaortic region. The present article aims to propose a surgical classification and to describe the majority of vessels variation, which could be encountered during paraaortic lymphadenectomy in gynecologic oncology. Moreover, surgical considerations in order to prevent anomalous vessels injury are well described.

Г7.10. Kostov S, Selçuk I, Watrowski R, Kornovski Y, Yalçın H, **Slavchev S**, Ivanova Y, Dzhenkov D, Yordanov A. **Pelvic Sidewall Anatomy in Gynecologic Oncology—New Insights into a Potential Avascular Space.** Diagnostics. 2022;12(2):AN 519.

Abstract: The surgical treatment of gynecological malignancies is, except for tumors diagnosed at the earliest stages and patients’ desire for fertility preservation, not limited to only the affected organ. In cases of metastatic iliac lymph nodes, gynecological tumors or recurrences located near the pelvic sidewall, oncogynecologists should dissect tissues in that region. Moreover, surgery of deep infiltrating endometriosis, e.g., within the sacral plexus, or oncological procedures, such as a laterally extended endoplevic resection or a laterally extended parametrectomy, often require a dissection of the pelvic sidewall. Dissection should be meticulous, and detailed knowledge of anatomy is mandatory. There are many controversies among authors regarding the terminology in the pelvic sidewall. In particular, several imprecise or confusing definitions exist in regard to the region located medially to the psoas major muscle. Therefore, after discussing the anatomy of the pelvic sidewall and the commonly used terminology, we define a new term and boundaries of a potential avascular space, the medial

psoas space. Contrary to the variety of earlier definitions, the proposed boundaries relate to a truly avascular space and could help surgeons to avoid complications resulting from misleading anatomical descriptions. Additionally, describing the clear boundaries of and possible anatomical variations in the medial psoas space may urge oncogynecologists to consider different approaches during surgery. The purpose of the present study is to describe the anatomy of the pelvic sidewall and the applications of the medial psoas space in gynecologic oncology.

Г7.11. Kostov S, **Slavchev S**, Dzhenkov D, Stoyanov G, Dimitrov N, Yordanov A. **Corona mortis, aberrant obturator vessels, accessory obturator vessels: Clinical applications in gynaecology.** Folia Morphologica (Poland). 2021;80(4):776–85.

Abstract: Corona mortis (CMOR) is a heterogeneous and often dubious term that causes much confusion in medical literature, especially in regard to its modern-day significance in pelvic surgery. Some authors define CMOR as any abnormal anastomotic vessel between the external iliac and obturator vessels, whereas others define it as any vessel coursing over the superior pubic branch, regardless whether it is a vascular anastomosis, an accessory obturator vessels, an obturator vessel related to the external iliac system or a terminal small vessel. There is no standard classification of CMOR and obturator vessels variations, although there are multitudes of classifications describing the diverse variations in the obturator foramen region. We define accessory obturator, aberrant obturator vessels and CMOR as different structures, as CMOR is an anatomical term that reflects a clinical situation rather than an anatomical structure. A new clinical classification for aberrant, accessory obturator vessels and CMOR is proposed regarding the anatomical variations, and the location of vessels to the deep femoral ring. The clinical significance of accessory obturator, aberrant vessels and CMOR is delineated in oncogynaecological and urogynaecological surgery.

Г7.12. Kostov S, Kornovski Y, **Slavchev S**, Ivanova Y, Dzhenkov D, Yordanov A, Slavcheva S**. Pseudomyxoma peritonei of appendiceal origin mimicking ovarian cancer – A case report with literature review.** Przeglad Menopauzalny. 2021;20(3):148–53.

Abstract: Pseudomyxoma peritonei (PMP) is a rare and uncommon condition, characterized by the presence of mucinous ascites in the abdominal cavity. The most common cause of PMP is mucinous adenocarcinoma of the appendix, followed by neoplasms of the ovary, endocervix, fallopian tube, alimentary organs, urachus, urinary bladder, lung, mucinous cyst of the spleen, and breast. Herein, we report a case of a 64-year-old postmenopausal woman (gravida 2, para 2) who presented at the department of gynecology with a short history of nausea and abdominal distention. Abdominal and vaginal ultrasonography showed a large amount of free fluid in the pelvis with hyperechoic echogenicity and right pelvic tumor with mixed echogenicity. Computed tomography demonstrated the presence of a heterogeneous, hypodense mass, without contrast enhancement, located on the right side of the pelvis, near the right ovary. Laparotomy was performed. Revision of the abdominal cavity revealed a large amount of yellow gelatinous mucinous ascites – approximately 1.5 l. A tumor (6 x 7 cm in diameter), arising from the appendix and located in the pouch of Douglas near the right ovary, was observed. Histopathology examination revealed poorly differentiated mucinous appendiceal adenocarcinoma, comprising up to 50% signet ring cells. Gastrointestinal tumors such as appendiceal neoplasms combined with PMP may mimic ovarian carcinomas. Computed tomography, abdominal/vaginal ultrasonography and tumor marker levels (carcino-embryonic antigen, carbohydrate antigen 19.9, carbohydrate antigen Ca-125) may establish the diagnosis. A differential diagnosis with appendiceal tumors should be considered for patients with right pelvic masses.

Г7.13. Kostov S, Kornovski Y, Slavchev S, Ivanova Y, Dzhenkov D, Dimitrov N, Yordanov A. **Lateral Transperitoneal Accesses to the Pelvic Retroperitoneum in Gynecology: Surgical Technique, Anatomical Landmarks and Variations.** Indian Journal of Gynecologic Oncology. 2021;19(4):AN 64.

Abstract: Introduction: The retroperitoneum in the pelvis includes all pelvic spaces (Retzius', vesicocervical/vesicovaginal, rectovaginal, presacral, pararectal and paravesical) and vital structures such as nerves, vessels, lymph nodes and ureters. Eradication of endometriosis, myomectomy of intraligamentary myoma, urogynecological reconstructive and oncological exenterative surgery require wider anatomical knowledge in the retroperitoneum. Generally, the retroperitoneal space is used for plane of dissection when the peritoneal cavity is obliterated. In the medical literature, there are few articles reporting the important relationship between retroperitoneal accesses, anatomical landmarks and anatomical variations in surgery. Materials and methods In the present article, lateral transperitoneal accesses to the pelvic retroperitoneum by open surgery are discussed. Furthermore, anatomical landmarks and anatomical variations encountered during retroperitoneal dissection are analyzed. Providing comprehensive knowledge of lateral transperitoneal accesses to the pelvic retroperitoneum will decrease patient's morbidity and mortality. Conclusions The recognition of retroperitoneal anatomical landmarks and anatomical variations will give surgeons more confidence. They should be familiar with anatomical variations, which are likely to occur during retroperitoneal accesses and dissection.

Г7.14. Kornovski Y, Ivanova Y, Kostov S, **Slavchev S**, Yordanov A. **Pregnancy and malignant diseases - principles of management.** Oncology in Clinical Practice. 2021;17(4):176–82.

Abstract: Pregnancy-associated malignant diseases introduce multiple dilemmas to the multidisciplinary boards, related to both the oncological treatment as well as to obstetrical management. The most frequent oncological diseases diagnosed during pregnancy are breast cancer, oncohaematological conditions, uterine cervix cancer and skin cancers. There are different clinical scenarios: interruption of the pregnancy and further use of the most appropriate

oncological strategy; it is also possible to postpone the oncological treatment for the postpartum period with a watch-and-wait strategy until the foetus is mature and the delivery is planned. The third scenario includes concurrent treatment of both conditions: use of chemotherapy, radiotherapy and surgery during an ongoing pregnancy. Choosing among these scenarios is considering many factors, including type and stage of the malignant tumour, pregnancy term, desire and informed decision of the pregnant woman to keep or interrupt the pregnancy. The current review is focused on the basic principles of the oncological modalities (surgery, chemotherapy and radiotherapy) during pregnancy as well as their influence over the pregnant woman and the foetus, over the obstetrical management and the timing and mode of delivery, delivery anaesthesia, lactation and breastfeeding from the point of view of the evidence-based medicine.

Г7.15. Kornovski Y, Ivanova Y, Kostov S**, Slavchev S**, Yordanov AD. **Current state and new aspects of fertility preservation surgery in some oncogynaecological diseases.** MEDICAL STUDIES-STUDIA MEDYCZNE. 2021;37(1):77–82.

Abstract: Preservation of reproductive function in young patients with uncompleted or unrealized reproductive plans in some malignant tumours of the female reproductive system has been a subject of study for many years, especially with the advances in assisted reproductive technologies. The main neoplasms that affect women in childbearing age are cervical cancer and ovarian tumours. In the current survey the novelties in the literature will be presented regarding the fertility preservation surgery in cervical cancer with size of tumour between 2 and 4 cm, granulosa cell ovarian tumours, and epithelial borderline ovarian tumours.

Г7.16. Kornovski Y, **Slavchev S**, Kostov S, Ivanova Y, Yordanov A. **Precancerous lesions of the cervix — aetiology, classification, diagnosis, prevention.** Oncology in Clinical Practice. 2021;17(6):271–6.

Abstract: The present review introduces the aetiology and classification of cervical precancers. The principles of diagnosis based on colposcopy are reviewed. The indications for colposcopy and targeted biopsy are steps in the diagnostic process of cervical precancers. Prophylaxis of these diseases prevents cervical cancer as high-grade precancerous lesions represent a direct precursor to cervical cancer. The basics of primary and secondary prevention, the types of screening, and the behaviour of the already-alerted patients after different screenings are presented.

Г7.17. Kornovski Y, Ivanova Y, Kostov S, **Slavchev S,** Yordanov A. **Gynaecological oncologic diseases and pregnancy.** Wiadomosci lekarskie. 2021;74(8):1984–7.

Abstract: We review the current research literature on treatment behaviour for neoplasms of the female genital tract during pregnancy. Guidelines for clinical management of cervical cancer, ovarian tumours, and vulvar cancer are presented both regarding gynaecological oncologic treatment and obstetrics. Cervical cancer is the most common malignant tumour of the female genitalia during pregnancy due to the high incidence of this neoplasm in developing countries, including Bulgaria, on the one hand, and on the other, it affects women of reproductive age. Treatment algorithms depending on various factors – gestational age, stage of the disease, tumour lesion size, and presence of pelvic lymph node metastases, are presented. Ovarian tumours are classified into benign, borderline malignant, and malignant tumours. The latter, in turn, are divided into early and advanced stages, as well as epithelial and non-epithelial tumours, which can be detected at different stages of pregnancy.

Г7.18. Kornovski Y, Atanasova Y, Kostov S, **Slavchev S**, Yordanov AD. **Endometriosis and risk of ovarian cancer.** Oncology in Clinical Practice. 2021;17(3):125–7.

Abstract: Endometriosis is common in premenopausal women and affects about 10% of women of reproductive age. It is a benign condition but demonstrates malignant behaviour with recurrences and metastases. Its tendency to increase the risk of specific subtypes of ovarian cancer is being discussed, because they exhibit specific clinical features that distinguish them from classical ovarian cancer. Malignant transformation of endometriosis goes through its transition to atypical endometriosis. Although endometriosis-associated ovarian carcinomas have a good prognosis, adequate follow-up and monitoring after treatment of endometriosis are recommended.

Г7.19. Kostov S, Yordanov A, **Slavchev S**, Strashilov S. **A fatal case of classic Potter s Syndrome.** Gazzetta Medica Italiana Archivio per le Scienze Mediche. 2020;179(5):372–4.

Abstract: Potter's sequence is a rare and fatal disease. there are four types of Potter's syndrome. Neonates with classical potter's sequence are with oligohydramnios and bilateral renal agenesis. They die shortly after birth because of severe respiratory distress due to pulmonary hypoplasia. Babies have typical physical features — potter's face, absence of kidneys and skeletal malformations. We report a fatal case of Potter's sequence with a typical physical appearance. We performed an autopsy after the delivery.

Г7.20. Slavchev S, Yordanov A, Nanev V, Ivanova D, Ivanov M, Strashilov S. **Lymph node involvement and the role of lymphadenectomy in patients with advanced ovarian cancer.** AUSTRALASIAN MEDICAL JOURNAL. 2019;12(7):200–5.

Abstract: Background: Ovarian carcinoma (OC) is one of the most common types of cancer diagnosed in women and its clinical significance is reflected in the leading place it holds in the morbidity and mortality rates among women diagnosed with cancer. The evaluation of lymph node involvement by the oncosurgeons is a pivotal step towards proper disease staging and

adjuvant therapeutic choices, towards optimal treatment outcomes. **Aims:** The aim of this study was to investigate the lymph node metastases and patient characteristics in women with advanced OC (FIGO II-IV). Methods: The study includes 58 patients with advanced OC (FIGO II-IV) operate in our clinic for the period 2004-2012. The patients were analysed with respect to age, FIGO stage, histological type and tumour grading, type of surgical verification of lymph nodes (biopsy, pelvic and/or para- aortic lymphadenectomy), results from histopathological reports describing the extent of lymphatic involvement, localization of lymph node metastases, and presence of ascites. **Results:** Lymph node metastases were found in 56.7 percent of the patients. 24.1 percent of the patients had micrometastases in lymph nodes that were not initially detected on both pre- operative diagnostic imaging and intraoperative inspection. **Conclusion:** The only reliable method for initial/early detection of lymphatic metastases in patients with OC is the surgical, through lymphadenectomy, with subsequent histological evaluation.

Г7.21. Kostov S, Yordanov A, **Slavchev S**, Strashilov S, Dzhenkov D. **First case of chylous ascites after laparoscopic myomectomy: A case report with a literature review.** Medicina (Lithuania). 2019;55(10):AN 624.

Abstract: Introduction: Chylous ascites is a rare form of ascites characterized by milk-like peritoneal fluid, rich in triglycerides. Clinical signs and symptoms include abdominal distention, pain, nausea, and vomiting. In gynecology, the most common cause for its occurrence is lymph dissection leading to impairment of major lymphatic vessels. There are only a few reported cases of chylous ascites arising after operations for benign diseases. **Case report:** We report a case of a 46-year-old female patient, who underwent laparoscopy for a myomatous node with chylous ascites occurring on post-surgery Day 2. The ascites was conservatively managed. The exact cause of the chyloperitonitis could not be determined. **Conclusion:** Although extremely rarely, chylous ascites may also occur in operative interventions for benign diseases in gynecological surgery.

Г7.22. Yordanov A, Kostov S, Ivanova Y, Kornovski Y, **Slavchev S** et al. 651 **Exploring the prognostic relevance of ROMO 1 expression and its association with histological type and lymph node status in cervical cancer: a comprehensive retrospective immunohistochemical analysis.** International Journal of Gynecologic Cancer 2024;34:A102-A103.

Abstract: Introduction/Background Despite diligent efforts in primary and secondary prevention, cervical cancer (CC) persists as a prevalent malignancy among women, necessitating the exploration of novel prognostic and predictive factors for practical application. Existing literature suggests a correlation between the expression levels of Reactive Oxygen Species Modulator 1 (ROMO 1) and the disease stage. The objective of the retrospective study was to establish the potential association between the ROMO 1 expression levels and the histological type and the lymph node status in CC patients. **Methodology** For each participant, a 3 µm-thick section from the corresponding formalin-fixed and paraffin-embedded tumor block underwent staining for ROMO1 (Clone OTI2C12, Mo, dilution 1:150, Abcam, UK). The immunohistochemical procedure employed the EnVision™ FLEX, High pH (DAKO) system and the AutostainerLink 48 technique (DAKO). The H score was utilized due to the absence of an established scoring system for ROMO 1. **Results** This retrospective study, encompassing the years 2015–2020, encompasses a cohort of 150 CC patients who received treatment at the Department of Oncogynecology of Medical University Pleven. From the studies, no statistically significant difference was found in the expression of ROMO 1 in patients N0 and N1 (p=0.969), but when we analyzed the relationship with the histological types statistically significant difference was noted (p=0.002). **Conclusion** ROMO1 expression was highest in SCC, followed by ASC and AC and there is no significant difference in expression levels according to lymph node status in CC patients.

Г7.23. Kornovski YD, Ivanova YI, Kostov SG, **Slavchev S** et al. 571 **Prognostic factors for HSIL resection margin involvement after LLETZ procedure.** International Journal of Gynecologic Cancer 2024;34:A453.

Abstract: Introduction/Background The high-grade squamous intraepithelial lesion (HSIL) is a well-defined precursor lesion of the invasive squamous cervical cancer (CC). It is more frequent than the invasive CC itself. It is easy to prevent CC by early detection and appropriate treatment of HSIL. **The aim** of this study was to investigate the impact of the following prognostic factors: age, parity, hormonal status (premenopausal, postmenopausal), histological result of targeted biopsy (low-grade squamous intraepithelial lesion(LSIL), HSIL), adequacy of colposcopic examination, transformation zone (TZ) type, type of cervical lesion (type 1, 2, 3), colposcopic diagnosis/impression (LSIL/grade1, HSIL/grade 2), lesion size (up to 1/3; up to 2/3; over 2/3 of cervical circumference) for the HSIL resection line involvement after loop electrosurgical excision (LLETZ) procedure. **Methodology:** Prospective study (01.01.2017 - 31.07.2021) including 189 patients with cervical precancerous lesions treated by the LLETZ. One gynecologic oncologist performed video colposcopy with Leisegang colposcope with original software and monitor, targeted biopsy, and LLETZ. One histopathologist diagnosed histological specimens from the biopsy and LLETZ procedure. The LLETZ procedure was performed with different-sized loops and a SURTRON device with cutting and coagulation modes, and cutting and coagulation of 100 and 60 W powers, respectively.The data were entered and processed with the IBM SPSS Statistics 25.0 statistical package and MedCalc Version 19.6.3. The significance level at which the null hypothesis was rejected was set at $p<0.05$. **Results:** Seven HSIL patients (3.7%) had cone resection margin involvement after LLETZ. In the analysis of the above factors, we found a significant difference ($p<0.05$) only for the factor of histological diagnosis from targeted biopsy for the HGSIL resection margin involvement after LLETZ procedure. **Conclusion:** The HSIL histological score of targeted biopsy is the only significant prognostic factor for resection margin involvement after LLETZ procedure.

Г7.24. Kostov SG, Kornovski YD, **Slavchev SH**, et al. 645 **Uterine sarcomas in young patients under 40 years of age: an epidemiological national-register-based retrospective cohort study.** International Journal of Gynecologic Cancer 2024;34:A263.

Abstract: Introduction/Background Uterine sarcomas (USs) are rare malignant mesenchymal neoplasms, which represent 3–5 % of all malignancies of the uterine corpus. USs rarely affect women under 40 years of age. **The study aims** to investigate the incidence, clinical stage, and relevant pathological results of young women diagnosed with USs. **Methodology:** This is a national-register-based retrospective cohort study of patients with USs (≤ 40 years at diagnosis) registered at Bulgarian National Cancer Registry between 1993 and 2020. Carcinosarcomas were excluded as they represent metaplastic endometrial carcinomas. **Results:** Patients of all ages diagnosed with USs during the study period were 569, of which younger women (≤ 40 years at diagnosis) represented 55 patients(9.66%). 38 patients(69%) were diagnosed with uterine leiomyosarcoma(ULMS), 16 patients (29%) with endometrial stromal sarcoma (ESS), and one patient (2%) with undifferentiated uterine sarcoma. The median age of diagnosis of all patients was 35 years and 6 months (the youngest patient – 18 years old with ULMS). The median age of diagnosis of ULMS and ESS were 35 years and 3 months, and 35 years and 7 months, respectively. The stage of the disease is known for 26 women with ULMS and 11 women with ESS. Eleven patients (42.3%) with ULMS were diagnosed at stage I of the disease and 10 patients (38.4%), 2 patients (7.6%), 3 patients (11.5%) with stage II, III and IV, respectively. For patients with ESS, 6 women (54.5%), 2 women (18.1%), and 3 women (27.2%) were diagnosed at stage I, II and III, respectively. **Conclusion:** Young patients with USs represent approximately 10% of patients of all ages diagnosed with uterine sarcoma. ULMS is the most commonly observed histology. Young patients with ULMS are mainly diagnosed at stages I and II of the disease. However, more than 10% of young patients with ULMS are diagnosed at stage IV.

Г7.25. Kostov SG, Kornovski YD, **Slavchev SH**, et al. 643 **The role of the internal iliac artery ligation in gynecologic oncology surgery: a single-center experience.** International Journal of Gynecologic Cancer 2024;34:A262-A263

Abstract: Introduction: The internal iliac artery (IIA) is the main arterial vessel of the pelvis. In cases of severe obstetrical or gynecologic hemorrhage, IIA ligation can be a lifesaving procedure. The study aims to investigate the role of IIA ligation in gynecologic oncology surgery. **Methodology**: This is a retrospective study (1.01.2019- 1.10.2023), which included 29 patients, referred to our institution, who underwent IIA ligation. The procedure was performed in 16 patients with cervical cancer, 6 patients with ovarian cancer, 3 patients with endometrial cancer, 3 women with uterine sarcomas, and 1 patient with vaginal cancer. Abdominal radical hysterectomy (type C1/C2) or simple total hysterectomy with bilateral salpingo-oophorectomy were done in 14 and 13 patients, respectively. Extraperitoneal bilateral ligation of the artery was performed as a palliative procedure in two patients with locally advanced cervical cancer and severe vaginal bleeding. **Results:** The median age of women was 60 years. In three patients (10.3%), the artery was bilaterally ligated during relaparotomy for postoperative bleeding. Bilateral ligation was performed in 24 (83%) women, whereas unilateral was done in 5 women. In 24 patients (83%), the artery was ligated above the posterior branch of the IIA, while in 5 (17%) women, the artery was ligated below the branch. There were no intraoperative complications. Two patients had persistent but decreased bleeding after the procedure. Bilateral IIA ligation significantly reduces blood loss in three cases of uterine sarcomas and two cases with vaginal bleeding due to advanced cervical cancer. **Conclusion:** IIA ligation above the posterior branch is not associated with postoperative ischemic complications to pelvic visceral organs and the buttocks. The procedure leads to a cessation of severe bleeding from pelvic gynecological malignancies. Bilateral IIA ligation still has applications in gynecologic oncology surgery, especially as a palliative procedure in developing countries with a high incidence of advanced cervical cancer cases.

Г7.26. Kornovski YD, Ivanova YI, Kostov SG, **Slavchev S**H et al. 570 **Correlation between histological findings after targeted biopsy and post-LLETZ specimens in patients with cervical precancerous lesions.** International Journal of Gynecologic Cancer 2024;34:A452-A453.

Abstract: Introduction/Background: Low (LSIL) and high (HSIL) squamous intraepithelial lesions are precancerous lesions of the uterine cervix with unknown frequency. The aim of this study is to investigate the correlation between histological findings after loop electrosurgical excision (LLETZ) and biopsy regarding LSIL, HSIL and to calculate the sensitivity (negative predictive value – NPV) and specificity (positive predictive value – PPV) of the histological biopsy result regarding HSIL in the final histological result after LLETZ. Methodology Prospective study (01.01.2017 - 31.07.2021) including 189 patients with cervical precancerous lesions treated by the LLETZ procedure in outpatient settings. One gynecologic oncologist performed the biopsies and LLETZ procedures and one histopathologist diagnosed histological specimens from the biopsy and LLETZ. The LLETZ was performed with different-sized loops and a SURTRON device with cutting and coagulation modes, and cutting and coagulation of 100 and 60 W powers, respectively. The data were entered and processed with the IBM SPSS Statistics 25.0 statistical package and MedCalc Version 19.6.3. The significance level at which the null hypothesis was rejected was set at $p<0.05$. The statistical methods used to assess correlation, sensitivity, specificity, positive and negative predictive values were Fisher-Freeman-Halton exact test $p<0.001$ and Cramer's test). Results Correlation analysis between the histological result after LLETZ procedure and the histological result of targeted biopsy showed a significant correlation between the histological findings; there was a strong correlation with a Cramer's contingency coefficient of 0.728.The sensitivity and negative predictive value of the targeted biopsy with respect to HSIL in the final histological result after LLETZ were high (89 and 81%, respectively), whereas the specificity and positive predictive value were lower (61 and 75%, respectively). Conclusion The histological result of targeted biopsy had higher sensitivity and lower specificity with respect to HSIL in the histological result after LLETZ.

Г7.27. Yordanov A, Kostov S, Ivanova Y, **Slavchev SH** et al. 670 **Tregs infiltration in CC is dependent on histological subtype.** International Journal of Gynecologic Cancer 2024;34:A502-A503.

Abstract: Introduction/Background: Cervical cancer (CC) is caused by high-risk human papillomavirus (HPV), and for this reason immunity has a major role in its genesis. Regulatory T cells (Tregs) are a key element in the specific immune response with major activity as immunosuppressors. Tregs overexress transcription factor Forkhead/winged-helix P3 (FOXP3), which is considered a marker for their lineage fidelity. It is therefore expected that that high levels of infiltrating FOXP3+ Tregs in CC patients would be associated with more aggressive course and higher metastatic potential. **The aim** of this study was to determine whether there is a relationship between the intratumoral and stromal infiltration by Foxp3+ Tregs and some pathological parameters in patients with CC. **Methodology:** This is a retrospective study of patients diagnosed between 2015 and -2020. All patients had histologically proven CC and they were examined for intertumoral and stromal Foxp3 expression by conventional immunohistochemistry. Results 150 patients with the following pathological characteristics were included (table 1). Intratumoral and stromal infiltration correlated linearly between each other ($p<0.001$) independently of tumor size, nodal involvement and age. Histological subtype differentially affected intratumoral and stromal infiltration. Squamous histology was associated with significantly lower stromal infiltration by FOXP3+ Tregs ($p<0.001$). On the other hand same histology was associated with higher intratumoral infiltration by FOXP3+ Tregs ($p<0.001$). More importantly there seems to be gradual increase in intratumoral infiltration from adenocarcinoma through adenosquamous to squamous histology. **Conclusion:** Infiltration by FOXP3+ Tregs in CC was not associated with tumor size and lymph node involvement, but showed very strong dependence on histological subtype. This observation suggests differential role of Tregs in immune surveillance and its escape across various histological subtypes, which may have direct implications to novel immunotherapeutic approaches in those patients.

Г7.28. Kostov S, Grigorova D, Kornovski Y, Ivanova Y, **Slavchev S**, Hasan I, Watrowski R, Slaveva M, Mitkov D, Yordanov A. 764 **Preoperative fibrinogen levels as a potential diagnostic marker for uterine sarcomas: a retrospective multivariate analysis.** International Journal of Gynecological Cancer. 2024;34(Suppl 1):A266-A267.

Abstract

Introduction/Background: Uterine sarcomas (USs) are rare mesenchymal malignancies with aggressive behavior and poor prognosis. Preoperative differentiation accuracy of USs and uterine leiomyomas (ULMs) is not satisfactory. **Methodology**: We collected observational data on two groups of women. Group I included USs patients with postoperatively confirmed sarcoma on histology and group II included patients with histologically diagnosed uterine leiomyoma. The study included 26 women with USs and 49 women with ULMs. Patients with USs had the following histological subtypes: 16 leiomyosarcomas, 6 endometrial stromal sarcomas, 3 adenosarcomas, and 1 undifferentiated uterine sarcoma. A blood test was performed 24 hours before surgery. Our work aimed to analyze the effects of age, preoperative blood serum levels of leucocytes, platels, hemoglobin, fibrinogen, and granulocytes/lymphocytes ratio on the probability of women being in the USs group. Data were analyzed using R. We applied multiple logistic regression with backward elimination to model the odds ratio (OR) of USs versus ULMs. **Results:** We report the results from the model with predictors of age, hemoglobin, fibrinogen and granulocytes/lymphocytes ratio. The variables hemoglobin and granulocytes/lymphocytes ratio are with p-values close to the boundary of the standard significance level of 5% (6.5% and 6.9% respectively) and we suspect that there is some evidence for their importance in the model. Older with one year women (OR 1.15, 95% CI: (1.06, 1.25), p-value < 0.001) and women with higher levels of the preoperative fibrinogen with one unit (OR 3.71, 95% CI: (1.36, 10.10), p-value = 0.01) were found to have statistically significantly bigger odds of USs. **Conclusion:** Based on the results from the data, the preoperative fibrinogen levels could have a significant role in differentiating patients with USs and ULMs. Further investigation based on data with a bigger sample size is needed to confirm our findings.

Пълнотекстови публикации в научни списания и сборници, извън минималните наукометрични изисквания за заемане на АД „Професор“

1. Yordanov A, **Slavchev S**, Kostov S, Strashilov S, Ivanov I, Nikolova M. **Leiomyosarcoma of the vulva: a case report.** Menopause Review/Przegląd Menopauzalny. 2020;19(4):184-187

Abstract: Introduction: Leiomyosarcoma of the vulva is a rare disease accounting for about 1% of all primary vulvar neoplasia but it is the most common type of vulvar sarcomas. Usually, it arises from the smooth muscles, blood vessels, rough ligaments, and erector-pili muscles. No treatment algorithms have been established yet. Tumour excision with clean resection lines is considered sufficient, with radiation therapy applied in certain cases. **Case report:** We report a case of a 73-year-old patient in whom the disease was manifested by pain syndrome and rapidly growing mass with irregular margins in the symphysis area and satellite nodules. She underwent extensive local excision followed by radiation therapy. **Discussion:** Isolated cases and limited series of LMS cases have been described in literature. Leiomyosarcoma is most commonly localized to the labia majora, the Bartholin gland area, clitoris and labia minora. It most often affected perimenopausal women but in younger and pregnant patients was described. The diagnosis is not always easy and different histological markers has to be used. There are no definitive therapeutic algorithms due to the rarity of the disease. The management is surgical treatment and the entire tumour must be removed with histologically verified clean resection margins, followed by radiation therapy in some cases. **Conclusions:** Vulvar tumours are difficult to distinguish macroscopically. Accurate histological diagnosis allows adequate treatment.

2. S Strashilov, **S Slavchev**, A Aljowder, P Vasileva, S Postelnicu-Gherasim, Stoyan Kostov, Angel Yordanov. **Austrian natural ointment (Theresienöl®) with a high potential in wound healing–a European review.** Wound Medicine. 2020;30:100191

Abstract: Background: The use of Theresienöl® (T.O.) a traditional Austrian natural product has been traced back to1350. Medical wound care has always been a major concern and problem for people, especially in the Middle Ages. Even the smallest injuries or open wounds to become fatal due to poor hygienic conditions. Access to natural fats and vegetable ingredients made it

possible to create a unique ointment named Theresienöl® which successfully treated multiple skin injuries including wounds, burns and scars. **Methods:** 1,354 patients suffering of therapy-refractory skin injuries treated with T.O. within 38 centers between 2004–2020 in a cohort study. These were used for this review. Patients were divided by clinical criteria based on application duration and daily rate of reapplication strictly individualized depending on the degree of damage and efficiency results depending on the duration of the problem and the presence of chronic concomitant diseases. With a simplified application process a fine film of 2 drops/1 cm of the product (Depending on the vehicle of choice) over the wound or the affected areas, with a waiting time until partial absorption takes place followed by the dressing. It can be applied directly over the wound or over sterile bandages. The Primary endpoints were pain reduction, patient satisfaction both physically and aesthetically. Additionally, we performed dermatological testing for irritation and allergy potential and rule out further side effects. **Results:** After further evaluation of the 1,354 cases, statistically it showed an average of 89 % improvement rate in inflammation, an 88 % reduction rate in pruritus, 87 % of improved epithelization, 93 % in patient benefit, and 91 % show improvement in wound closure. The Visual Analogue Scale of pain started at 8.29 a marked reduction was noted in the first 24 h with an average of 2.41. followed by a stable slow reduction of 1.73 on the 7th day. **Conclusion:** Treatment of Therapy-Refractory skin injuries including burns, scars, acute in addition to chronic wounds with T.O., which is nearly 700 years old has shown for the first time exceptional results in an outpatient setting and was successful in alleviating inflammation, pain, itching and discomfort associated with wound care, thus providing an optimal opportunity for the wound to heal sufficiently and quickly without reported side effects.

3. S Kostov, **S Slavchev**, D Dzhenkov, S Strashilov, A Yordanov. **Discordance for Potter's Syndrome in a Dichorionic Diamniotic Twin Pregnancy—An Unusual Case Report.** Medicina. 2020;56 (3):109.

Abstract: Introduction: Potter's syndrome, also known as Potter's sequence, is an uncommon and fatal disorder. Potter's sequence in a multiple pregnancy is uncommon, and its frequency remains unknown. Worldwide in a diamniotic twin pregnancy, there are only a few cases described. **Case report:** We present an unusual case discordance for Potter's syndrome in

a dichorionic diamniotic twin pregnancy. Twin A had the typical physical and histological Potter's findings. Twin B had normal respiratory function and normal physical examination findings. There are many controversies about this condition in diamniotic twin pregnancy. One case report concluded that that the presence of a normal co-twin in diamniotic pregnancy prevented the cutaneous features seen in Potter's syndrome and ameliorated the pulmonary complications, whereas two other case studies reported that the affected twin had extrarenal features typical of the syndrome. **Conclusion:** We performed an autopsy and calculated lung weight/body weight ratio to diagnose pulmonary hypoplasia. Histopathologic examination of lungs and kidneys was performed. We concluded that the appearance of extrarenal features in the a affected twin depends on the amniocity.

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