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GYNECOLOGIC ONCOLOGY SURGICAL PROCEDURES IN THE GENERAL HOSPITAL "DR. RADIVOJ SIMONOVIĆ" IN SOMBOR IN THE PERIOD FROM 2011–2021

GINEKOLOŠKO-ONKOLOŠKE OPERACIJE U OPŠTOJ BOLNICI „DR RADIVOJ SIMONOVIĆ” U SOMBORU U PERIODU 2011–2021.

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Summary

Introduction. In the period from 2011 - 2021, 1482 gynecologic surgeries were performed at the Department of Gynecology and Obstetrics of the General Hospital in Sombor, of which 50 (3.4%) were gynecologic oncology surgical procedures. The distribution of the malignant tumor localization was as follows: vulva 4 (8%), cervix 13 (26%), endometrium 24 (48%), and ovary 9 (18%). **Material and Methods.** The preoperative diagnosis of all patients included standard laboratory tests of blood and urine, chest X-ray, internal medicine specialist examination, electrocardiography, and imaging procedures (magnetic resonance imaging or computed tomography) of the small pelvis and abdomen. In all cases, the diagnosis of vulvar, cervical, and endometrial cancer was made preoperatively, based on pathohistological findings of the biopsy samples of tumor tissue or material obtained using exploratory curettage. In ovarian cancer, the diagnosis was made during surgery based on *ex tempore* pathohistological analysis. **Results.** Most of the operated patients were in the International Federation of Gynecology and Obstetrics stage I - 39 (78%) and the most common pathohistological type of tumor was adenocarcinoma of different localizations - 29 (58%). The number of lymph nodes removed per surgery was 16 - 39 (x: 19) and lymphovascular invasion was present in 31 (62%) operated patients. Intraoperative complications (bleeding, ureteral injury, infection, and wound dehiscence) occurred in 8 (16%) patients, recurrence occurred in 3 (6%), and postoperative lethal outcome occurred in 4 (8%) patients. **Conclusion.** The essential condition for performing gynecologic oncology surgical procedures in a secondary level healthcare facility is a well-trained gynecology surgeon who has received complete training in gynecologic oncology at the tertiary level, as well as the optimal number of gynecologic oncology surgeries in accordance with recommendations of the European Society of Gynecological Oncology.

Key words: Gynecology; Surgical Oncology; Gynecologic Surgical Procedures; Incidence; Neoplasms; Hospitals, General

Sažetak

Uvod. U periodu 2011–2021. godine, na Ginekološko-akušerskom odeljenju Opšte bolnice u Somboru, izvršene su 1.482 različite ginekološke operacije: od toga 50 (3,4%) ginekološko-onkoloških operacija. Distribucija prema lokalizaciji malignih tumora bila je: vulva četiri (8%), grlić materice 13 (26%), endometrijum 24 (48%) i jajnik 9 (18%). **Materijal i metode.** U preoperativnoj dijagnostici kod svih pacijentkinja pored standardnih laboratorijskih analiza iz krvi i mokraće, rendgenskog snimka pluća, internističkog i elektrokardiografskog pregleda, urađena je imidžing dijagnostika (magnetna rezonancija ili kompjuterizovana tomografija) male karlice i abdomena. U svim slučajevima dijagnoza karcinoma vulve, grlića materice i endometrija postavljena je preoperativno na osnovu patohistološkog pregleda biopsijskih uzoraka tumorskog tkiva ili materijala dobijenog primenom eksplorativne kiretaže. Kod karcinoma jajnika dijagnoza je postavljena u toku operacije na osnovu *ex tempore* patohistološke dijagnoze. **Rezultati.** Najveći broj operisanih pacijentkinja bio je u I stadijumu bolesti prema Međunarodnoj federaciji za ginekologiju i akušerstvo - 39 (78%) a najčešća patohistološka vrsta tumora bio je adenokarcinom različitih lokalizacija - 29 (58%). Broj uklonjenih limfnih čvorova po operaciji bio je od 16 do 39 (x : 19) a limfovaskularna invazija bila je prisutna kod 31 (62%) operisane pacijentkinje. Različite komplikacije u toku hirurškog lečenja (krvarenje, povreda uretera, infekcija i dehiscencija rane) bile su zastupljene kod osam (16%) pacijentkinja, recidiv se javio kod tri (6%) a letalni ishod posle operacije kod četiri pacijentkinje (8%). **Zaključak.** Osnovni uslov za izvođenje ginekološko-onkoloških operacija na sekundarnom nivou zdravstvene zaštite je postojanje hirurški dobro obučenog ginekologa koji je obuku iz ginekološke onkologije stekao na tercijarnom nivou kao i optimalni broj ginekološko-onkoloških operacija u skladu sa preporukama Evropskog udruženja ginekološke onkologije. **Glavne reči:** ginekologija; hirurška onkologija; ginekološke hirurške procedure; incidenca; neoplazme; opšte bolnice

Introduction

Today, it has been established that cancer is a disease of genetic origin caused by mutations in

genes that encode molecules responsible for the processes of communication or cooperation between and within cells. Mutations in oncogenes lead to the formation of abnormal proteins that may

Abbreviations

MRI	– magnetic resonance imaging
CT	– computed tomography
ECG	– electrocardiography
FIGO	– International Federation of Gynecology and Obstetrics
ESGO	– European Society of Gynecological Oncology
LVI	– lymphovascular invasion
UGOS	– Association of Gynecologists and Obstetricians of Serbia

transform a normal cell into a malignant. Genetic studies have so far revealed about 600 tumor genes, oncogenes, and tumor suppressor genes, of which about 150 are directly responsible for tumor growth of epithelial origin [1–3]. Malignant tumors of the female genital organs in Serbia account for about 20% of all malignant tumors of the female population. The number of new patients with malignant tumors of the cervix, body of the uterus (endometrium), and ovaries is constantly increasing. In some regions and localizations of malignant tumors, such as cervical cancer, the incidence is the same as in underdeveloped areas that have the highest incidence of this disease in the world. On the other hand, the incidence of endometrial and ovarian cancer is similar to that in developed countries, which is characterized by a high frequency of these tumors [4, 5]. Reliable and accurate reports on the results of treatment of malignant tumors of women's genital organs do not yet exist in Serbia. In the last decades of the 20th century, gynecologic oncology stood out as a separate field in gynecology and oncology and represented a professional orientation of experts in various specialties: gynecologists, radiologists-diagnosticians, radiotherapists, pathologists, medical oncologists, and palliative care specialists [6, 7]. The aim of this paper is to present the results of surgical treatment of various types of malignant tumors of the female genital system at the Department of Obstetrics and Gynecology of the General Hospital "Dr. Radivoj Simonović" in Sombor, in the period from 2011 – 2021.

Material and Methods

Indications for surgical treatment of malignant tumors of the female genital organs included invasive vulvar, cervical, endometrial, and ovarian cancers. The diagnosis of vulvar and cervical cancer was made based on pathohistological examination of tumor tissue samples obtained by biopsy, and in endometrial cancer using diagnostic or exploratory curettage of the uterine cavity. In ovarian cancer, the diagnosis was made during surgery based on ex tempore pathohistological analysis of tumor tissue samples. In all patients, the preoperative diagnostic procedure included blood and urine laboratory tests, computed tomography (CT) or magnetic resonance imaging (MRI) of the pelvic and abdominal organs, a 2 view chest X-ray, electrocardiography (ECG), and general internal examination [8]. In patients with ovarian and endometrial cancer, preoperative detection of the cancer antigen 125 concentration

in the peripheral blood was performed, while cancer antigen 19-9 was performed in cases where mucinous ovarian cancer was suspected. The assessment of the extent or stage of the disease was performed based on the current International Federation of Gynecology and Obstetrics (FIGO) classification [9]. Two hours before surgery, all women underwent, bowel preparation, subcutaneous administration of fraxiparin, at a dose of 0.4 - 0.6 IU, and 1 - 2 gr of cephalosporin antibiotics. According to the need for surgery, decanted erythrocytes were reserved, as well as a consultative presence of a general surgeon or urologist. Immediate preoperative preparation was performed in the operating room and it included disinfection of the anterior abdominal wall and vagina using a solution of povidone iodide (povidone, Hemofarm) or octanisept (octenidine, phenoxyethanol, Schülke & Mayr GMBH) as well as placement of a Foley catheter into the urinary bladder [10]. Surgical treatment of vulvar cancer included radical surgical excision with pathohistological confirmation of negative edges around the tumor (at least 10 mm) and covering the defect with local skin flaps in two patients, and in the remaining two patients, classic radical hemivulvectomy was performed on one side [11]. Surgical treatment of cervical cancer was performed using the Wertheim-Meigs surgical technique, which in addition to removing the uterus includes removal of connective tissue or parameters around the cervix and lymph nodes in the pelvis (iliac, presacral and obturator group) [12]. This surgical technique corresponds to the Querleu-Morrow type C1 classification and includes resection of the paracervical tissues at the intersection with the internal iliac vessels, resection of the uterosacral ligaments to the rectum and vesicouterine to the bladder, complete mobilization of the ureter, and resection of 15 - 20 mm of the vagina from the tumor or cervix with nerve preservation [13].

Surgical treatment of endometrial cancer includes removal of the uterus, ovaries, and fallopian tubes; a sample of free fluid is taken for cytological analysis and regional lymph nodes of the iliac and obturator fossa to the level of the obturator nerve. Surgical treatment of ovarian cancer includes maximal surgical reduction of the tumor, sampling of free fluid aspirates for cytological analysis, hysterectomy with bilateral adnexectomy, omentectomy, and resection of all affected organs in the pelvis and abdomen [13]. Postoperative supervision was performed in the department by the doctor on duty and a nurse. The temperature list includes mostly 2 antibiotics (cephalosporins and aminoglycosides) in the period of 48 – 72 hours after surgery, analgesics (trodon – tramadol ampoules, and zodal – ketorolac, Hemofarm), antiemetics (ondasan – ondansetron ampoules, Slaviamed) and 3,000 ml of saline infusion. If the general condition of the patient required, like in hemodynamically unstable patients who underwent other interventions on the surrounding organs, the patient was placed in the surgical inten-

sive care unit. After surgery and arrival of the pathohistological findings, all patients were referred for a consultative examination to the Gynecologic Oncology Council of the Institute of Oncology of Vojvodina in Sremska Kamenica for a decision on additional therapy.

Results

In the period from 2011 – 2021, 1482 gynecological surgeries were performed at the Department of Obstetrics and Gynecology of the General Hospital "Dr. Radivoj Simonović" in Sombor, of which 50 (3.4%) were women suffering from various malignant tumors of the female genital tract. The age of the operated patients ranged from 28 - 75 years, with a mean age of 46 years. The distribution of patients in regard to the type of malignant tumors of genital organs as well as the basic characteristics of patients is shown in **Table 1**. Lymphovascular invasion (LVI) was present in 31 (62%) operated patients (vulva 1, cervix 9, endometrium 16 and ovary 5) and negative LVI was found in 19 (38%). The blood loss during surgery was 20 - 700 ml (average 230 ml) and the number of lymph nodes removed was 16 - 39 (x: 19). Positive lymph nodes with the presence of metastases were recorded in 11 (22%) operated patients, which required adjunctive therapy. The distribution of intra and postoperative complications is shown in **Table 2**. Recurrence occurred in 3 (6%) operated patients (vulva 1, endometrium 1, and ovary 1) and postoperative lethal outcome occurred in 4 (8%) patients (vulva 1, cervix 1, and ovary 2).

Discussion

In Serbia and Autonomous Province of Vojvodina, there is an evident increase in the incidence of malignant tumors of all localizations, including the organs of the female genital tract [3, 4, 14]. The diagnosis and treatment of these tumors are performed at 3 levels of health care, but also in the private health sector (private special gynecology hospitals) [6]. All new and diagnosed cases of malignant tumors need to be reported and referred to the multidisciplinary Gynecologic Oncology Council of the Institute of Oncology of Vojvodina in Sremska Kamenica. However, at all levels of health care, diagnostics and treatment are still performed by gynecologists-obstetricians of general professional orientation, including a small number of those who have a sub specialization in oncology or are exclusively engaged in gynecologic oncology, which is a trend in the European Union and United States. Although the Association of Gynecologists and Obstetricians of Serbia (UGOS) has been found to improve this process, by organizing an international congress for gynecological oncology under the auspices of European Society of Gynecologic Oncology (ESGO) in Belgrade in 2009, as well as numerous professional symposia and meetings, taking part in publishing textbooks on gynecologic oncology and so on, one gets the impression that the situation in Serbia has not changed significantly in the last 18 years [7, 12, 14]. There are still no precisely regulated legal frameworks regarding diagnostic protocols and referrals for treatment of patients with malignant tumors of the genital organs; there is a lack of well-conceived sub specialization in gynecologic oncology harmonized with the

Table 1. General patient characteristics: disease stage (FIGO), degree of cell differentiation, and histopathological classification

Tabela 1. Opšte karakteristike pacijenata: stadijum bolesti (FIGO), stepen ćelijske diferencijacije i histopatološka klasifikacija

Patient characteristics <i>Karakteristike pacijenata</i>	Localization of cancer/ <i>Lokalizacija karcinoma</i>			
	Vulva/ <i>Vulva</i>	Cervix/ <i>Grlić materice</i>	Endometrium/ <i>Endometrijum</i>	Ovary/ <i>Jajnik</i>
FIGO Stage/ <i>FIGO stadijum</i>				
I	3 (6%)	11 (22%)	20 (40%)	5 (10%)
II	1 (2%)	2 (4%)	2 (4%)	1 (2%)
III			2 (4%)	2 (4%)
IV				1 (2%)
Degree of cell differentiation <i>Stepen ćelijske diferencijacije</i>				
1	4 (8%)	8 (16%)	14 (28%)	5 (10%)
2		3 (6%)	7 (14%)	2 (4%)
3			1 (2%)	2 (4%)
Pathohistology/ <i>Patohistologija</i>				
Planocellular type <i>Planocelularni tip</i>	3 (6%)	11 (22%)		
Adenocarcinoma <i>Adenokarcinom</i>		2 (4%)	22 (44%)	5 (10%)
Other types/ <i>Ostali tipovi</i>	1 (2%)		2 (4%)	4 (8%)

Legenda: FIGO – Međunarodna federacija za ginekologiju i akušerstvo

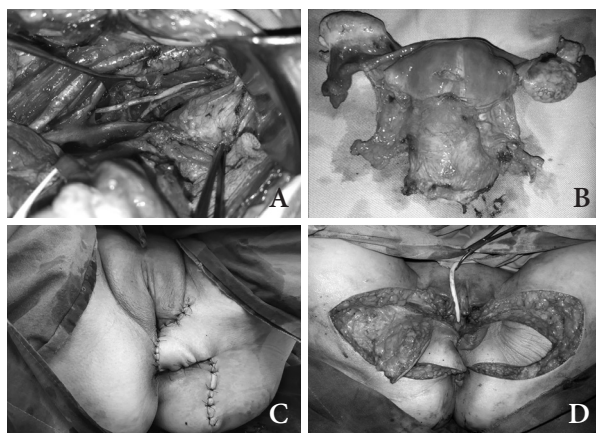
Table 2. Intraoperative, postoperative complications and recurrences in operated gynecological and oncological patients in the period 2011 – 2021**Tabela 2.** Intraoperativne, postoperativne komplikacije i recidivi kod operisanih ginekološko-onkoloških pacijenata u periodu 2011–2021.

Complications <i>Komplikacije</i>	Localization of cancer/ <i>Lokalizacija karcinoma</i>		
	Vulva/ <i>Vulva</i>	Cervix/ <i>Grlić materice</i>	Endometrium/ <i>Endometrijum</i> Ovary/ <i>Jajnik</i>
Intraoperative/ <i>Intraoperativne</i>			
Bleeding/ <i>Krvarenje</i>			1
Ureter injury/ <i>Povreda uretera</i>		1	
Postoperative/ <i>Postoperativne</i>			
Wound infection/ <i>Infekcija rane</i>			1
Wound dehiscence <i>Dehiscencija rane</i>	1		
Lymphocyst/ <i>Limfocista</i>		3	1
Total complications <i>Ukupne komplikacije</i>	(2%)	4 (8%)	3 (6%)

ESGO program, and no precise results of treatment of gynecologic oncology patients in which representatives of various oncology centers would take part [16]. In the professional medical literature available to us, there are almost no cumulative results of the treatment of gynecological and oncological patients at the secondary health level in Serbia. The results of treatment can be compared exclusively with those at the tertiary health level, which is not adequate due to the different organization of work in these institutions [3, 11–15]. We explain this by the fact that only one specialist gynecologist-obstetrician, a full professor of gynecology and obstetrics, who has been employed at the tertiary health level for more than 3 decades (Clinic of Gynecology and Obstetrics of the Clinical Center of Vojvodina in Novi Sad) and also received education abroad, is in charge of the surgical techniques performed in the Sombor hospital.

In the presentation of results from Sombor hospital, most operated women had endometrial cancer 24 (48%), FIGO I stage 39 (78%) and the most common histological type was adenocarcinoma 31 (58%), which is similar to the published results in the tertiary health institutions [17–19]. We operated on 4 patients with vulvar cancer (3 with squamous cell carcinoma and 1 with Mb Paget). In all cases, radical surgical excision was applied, and in 2 (50%) patients the defect was covered with a local skin flap (V-Y bilateral flap and rhomboid flap), which is shown in **Figure 1** (C and D). Of the postoperative complications, one patient had a wound dehiscence, which healed per secundam with antibiotics and disinfectants, while one patient had a recurrence 15 months after surgery and radiation therapy with a lethal outcome due to dissemination of the disease. These results are similar to the previously published results of the Clinical Centre of Vojvodina [11, 20, 21] at the Clinic of Gynecology and Obstetrics in Novi Sad; there were 175 women with cervical cancer, 79.4% of patients were in FIGO I stage, the most common type was squamous cell carcinoma in 76.6% of operated patients, while

54.8% patients had a well-differentiated stage I tumor. During surgery, 32 lymph nodes were removed on average, the average blood loss was 300 ml, and various intra and postoperative complications were observed in 24.5% of patients [12]. This is similar to our results from Sombor, which refer to the surgical treatment of cervical cancer, where 84.6% of patients had FIGO I stage squamous cell carcinoma. The average number of 19 removed lymph nodes and the average blood loss of 230 ml is less than in the Novi Sad study [12, 22]. The total number of intraoperative complications of cervical cancer in Sombor is 8% less than in the Novi Sad study, where 24.5% of patients had intraoperative complications, which can be explained by a larger sample, different stages and more gynecologists who per-

**Figure 1.** Various surgical techniques in the treatment of cervical and vulvar cancer: A - lymphadenectomy in the small pelvis; B - material after radical hysterectomy: uterus with parametrium; C - Rhomboid flap; D - V-Y skin flap

Slika 1. Primena različitih hirurških tehnika u lečenju karcinoma grlića materice i vulve: A – limfadenektomija u maloj karlici; B – preparat nakon radikalne histerektomije: uterus sa parametrijumom; C – Romboidni režanj; D – V-Y kožni režanj

formed these surgeries. There were 24 (48%) women with endometrial cancer, most of them with FIGO I stage; adenocarcinoma was present in 22 (91.6%) and well-differentiated stage I tumors were found in 14 (58.3%) women. In this group of patients there were 3 (6%) complications and in one patient with poorly differentiated stage 3 tumor recurrence was noted in the area of the anterior abdominal wall 9 months after postoperative radiation therapy and she was referred to the Institute of Oncology of Vojvodina. Vukomanović et al. examined the clinical and histological features of endometrial cancer in obese women [18]. Endometrial cancer in obese women is most often a well-differentiated FIGO stage I endometrioid adenocarcinoma, which is similar to our results. In our study, there were 9 patients with different types of ovarian cancer, of which 5 (55.6%) had an initial FIGO I stage. One patient with FIGO stage IV underwent exploratory laparotomy with cytoreduction and died 3 weeks after surgery, and 1 patient primarily operated with FIGO III C died due to disease progression 2.5 years later. No complications were noted during the surgeries. One of the published papers from the Clinic of Gynecology and Obstetrics of the Clinical Center of Vojvodina in Novi Sad from 2019, reported the highest number of patients with FIGO III stage (33.1%), the most common were epithelial histological types in 84.2%, the most common pro-

cedure was hysterectomy with bilateral adnexectomy and omentectomy and cytology (45.4%) while complications were noted in 4.3% of patients who underwent surgery [16]. In our study, the largest number of patients had FIGO I stage (55.6%), which is slightly higher and is related to the careful selection of cases and sending advanced stages to a higher tertiary level of healthcare. All our patients underwent hysterectomy with bilateral adnexectomy, omentectomy, and sampling for cytological analysis as a minimum procedure, and we did not have any complications related to patient selection, lower stage of the disease, and smaller sample.

Conclusion

With respect to all modern diagnostic-therapeutic principles of treatment, gynecologic oncology surgeries may be performed in secondary health care institutions, in gynecologic oncology departments of general hospitals. The essential condition for performing gynecologic oncology surgical procedures at a secondary level healthcare is a well-trained gynecology surgeon who has received complete training in gynecologic oncology at the tertiary level, as well as the optimal number of gynecologic oncology surgeries in accordance with recommendations of the European Society of Gynecological Oncology.

References

- Pierson WE, Peters PN, Chang MT, Chen LM, Quigley DA, Ashworth A, et al. **An integrated molecular profile of endometrioid ovarian cancer.** *Gynecol Oncol.* 2020;157(1):55-61.
- Song Wu, Zhu W, Thompson PO, Hannun YA. **Evaluating intrinsic and non-intrinsic cancer risk factors.** *Nat Commun.* 2018;9(1):3490.
- Mandić A. **Značaj ekspresije vaskularnog epitelnog faktora rasta i ciklooksigenaze-2 u intraepitelnim neoplazijama i karcinomu grlića materice [dissertation].** Novi Sad: Univerzitet u Novom Sadu, Medicinski fakultet; 2011.
- Ilic M, Ilic I. **Cancer mortality in Serbia, 1991-2015: an age period cohort and joinpoint regression analysis.** *Cancer Commun (Lond).* 2018;38(1):10.
- Antoničević A, Rancic N, Ilic M, Todorovic B, Stojanovic M, Stevanovic J. **Incidence and mortality trend of ovarian cancer in central Serbia.** *J BUON.* 2017;22(2):508-12.
- Đurđević S. **Ginekologija.** 3rd ed. Novi Sad: Medicinski fakultet; 2019.
- Đurđević S, Kesić V. **Ginekološka onkologija.** 1st ed. Novi Sad: Medicinski fakultet; 2009.
- Stojanović S, Hadnađev D, Govorčin M, Đurđević S, Lučić Z, Till V. **Mesto i uloga kompjuterizovane tomografije i magnetne rezonancije u dijagnostici ginekoloških oboljenja.** *Med Pregl.* 2005;58(3-4):153-7.
- Maksimović M, Đurđević S, Čurčić A, Ivanović Lj, Pantelić M. **Preoperativna priprema pacijentkinja za ginekološke operacije.** *Med Pregl.* 2009;62(9-10):477-82.
- Đurđević S, Stojanović S, Basta-Nikolić M, Maksimović M. **Racionalna primena tumor markera CA 125 u ginekološkoj onkologiji.** *Med Pregl.* 2010;63(3-4):195-9.
- Pantelić M, Đurđević S, Nikolić D, Maksimović M. **Hirurško lečenje invazivnog karcinoma vulve.** *Med Pregl.* 2012;65(3-4):97-101.
- Đurđević S, Stojanović S, Pantelić M, Nikolić D, Basta-Nikolić M, Mocko-Kaćanski M. **Radikalna histerektomija u hirurškom lečenju invazivnog karcinoma grlića materice na Novosadskoj ginekološko-akušerskoj klinici u periodu 1993-2013. godine.** *Med Pregl.* 2015;68(7-8):227-33.
- Querleu D, Morrow CP. **Classification of radical hysterectomy.** *Lancet Oncol.* 2008;9(3):297-303.
- Đurđević S. **Surgical treatment of ovarian cancer – situation in Serbia.** *Archive of Oncology.* 2011;19(Suppl 2):17.
- Živaljević M. **Dijagnostička vrednost preoperativnog određivanja stadijuma karcinoma endometrija ultrazvukom i magnetnom rezonancom [dissertation].** Novi Sad: Univerzitet u Novom Sadu, Medicinski fakultet; 2009.
- Djurđević S, Stojanovic S, Basta-Nikolic M, Nikolic D. **Novel diagnostic and therapeutic approaches to the treatment of ovarian cancer.** *Med Pregl.* 2018;72(1-2):11-6.
- Stanojević Z, Todorovska I, Đorđević B, Lilić V, Živanović D. **Hemioterapija uznapredovalog karcinoma endometrija.** *Vojnosanit Pregl.* 2007;64(8):555-60.
- Vukomanović P, Kutlešić R, Stefanović M, Milosavljević M, Popović J, Petrić A. **Kliničke i histološke karakteristike karcinoma endometrija kod gojaznih žena.** *Med Pregl.* 2010;63(9-10):709-14.
- Nikolić D. **Dijagnostički značaj paraaortalne limfadenektomije u hirurškom lečenju karcinoma grlića materice u FIGO IB stadijumu bolesti [dissertation].** Novi Sad: Univerzitet u Novom Sadu, Medicinski fakultet; 2013.

20. Đurđević S, Popov M, Stojanović S, Joksimović N. Povrede uretera u toku ginekološko-onkoloških operativnih zahvata. *Med Pregl*. 2003;56(5-6):257-62.

21. Djurdjevic S, Curcic A, Bogavac M, Ivanovic Lj. VY fasciocutaneous sliding flap in the surgical treatment of invasive vulvar cancer. *HelthMed*. 2011;5(6):2010-4.

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22. Mandic A, Djurdjevic S, Stojanovic S, Kacanski Mocko M. Radical abdominal trachelectomy followed neoadjuvant chemotherapy in cervical adenocarcinoma FIGO stadium IB2 - a case report and review of literature. *J Cancer Biol Res*. 2016;4(1):1077.