Oncology Institute of Vojvodina, Diagnostic Imaging Center, Sremska Kamenica[1]
University of Novi Sad, Faculty of Medicine Novi Sad[2]
Eurolab Gynecology Outpatient Center, Novi Sad[3]

Professional article
Stručni članak
UDK 618.146-006.6-073
https://doi.org/10.2298/MPNS2006158S

CONTRIBUTIONS OF THE NEWLY REVISED 2018 INTERNATIONAL FEDERATION OF GYNECOLOGY AND OBSTETRICS STAGING OF CERVICAL CANCER

DOPRINOSI NOVE REVIDIRANE KLASIFIKACIJE KARCINOMA GRLIĆA MATERICE MEĐUNARODNE FEDERACIJE GINEKOLOGA I OPSTETRIČARA IZ 2018. GODINE

Bojana ŠĆEPANOVIĆ[1], Nikola ANĐELIĆ[1, 2], Dejan NINČIĆ[3] and Nataša PRVULOVIĆ BUNOVIĆ[1, 2]

Summary

Introduction. According to the latest data from International Agency for Research on Cancer from 2018, global burden of cancercervical cancer is the fourth most common cancer in women worldwide. The aim of this article was to present the contributions of the new, revised 2018 International Federation of Gynecology and Obstetrics staging of carcinoma of the cervix uteri, allowing much more precise staging with the use of any imaging modalities and/or pathological findings to allocate the stage and provide more effective treatment. **International Federation of Gynecology and Obstetrics staging system.** The main changes in the new staging system were made in IB stage of the disease, which now includes 3 subgroups i.e. substages for every 2 cm increments in tumor size: stage IB1 (< 2 cm), stage IB2 disease (2 to < 4 cm), and stage IB3 (≥ 4 cm). This system also incorporates the lymph node status into stage III cervical cancer, allowing imaging and/or pathological findings of lymph nodes to the pelvic and/or para-aortic nodes to assign stage IIIC disease. **Conclusion.** The main goal of the new staging system revision was to improve the accuracy of staging in order to provide more refined understanding of prognostic groups and facilitate better treatment for women with invasive cervical cancer.

Key words: Classification; Neoplasm Staging; Uterine Cervical Neoplasms; Diagnostic Imaging; Lymph Nodes; Prognosis

Sažetak

Uvod. Prema najnovijim podacima Interncaionalne agencije za istraživanje o raku iz 2018, karcinom grlića materice četvrti je najčešći tumor kod žena na svetu. Cilj ovog stručnog članka je da prikaže novi revidirani stejdžing sistem za karcinom grlića materice Međunarodne federacije ginekologa i obstetričara iz 2018. godine, koji omogućava mnogo preciznije određivanje stadijuma karcinoma upotrebom slikovne dijagnostike i patohistoloških nalaza, sa ciljem preciznog određivanja stadijuma i uspešnijeg lečenja. **Klasifikacioni sistem Međunarodne federacije ginekologa i obstetričara.** Glavne promene u novom stejdžing sistemu odnose se na stadijum bolesti IB, koji sada podrazumeva tri podstadijuma: IB1 (tumor manji od 2 cm), IB2 (tumor veličine od 2 do 4 cm) i IB3 (tumor veći od 4 cm). Ovaj sistem takođe uzima u obzir i status karličnih i paraaortnih limfnih čvorova kod bolesti III stadijuma, omogućavajući da se na osnovu nalaza slikovne i patohistološke dijagnostike odredi stadijum IIIC. **Zaključak**. Osnovni cilj nove revizije stejdžing sistema je poboljšanje preciznosti stejdžinga što pospešuje formiranje prognostičkih grupa i samim tim pospešuje se i lečenje žena sa invazivnim karcinomom grlića materice.

Ključne reči: klasifikacija; stadijumi neoplazmi; neoplazme grlića materice; dijagnostički imidžing; limfni čvorovi; prognoza

Introduction

Cervical cancer is ranked as the fourth most commonly diagnosed tumor and the fourth leading cause of cancer mortality in women [1]. According to currently available data, provided by the Global Cancer Observatory published in 2018, the total number of women with a diagnosed cervical cancer worldwide was approximately 570,000 and the number of deaths was approximately 311,000 [1]. After breast, colorectal and lung cancer, cervical cancer has the highest incidence [2]. According to the latest data of the Institute of Public Health from 2015 in Serbia, the number of new cases was 1,095 annually, and the number of women who died from cervical cancer was 424 per year. These epidemiological data remind us of the need for permanent improvement of clinical practice in terms of improving diagnostics, precise determination of the disease stage and selection of the optimal treatment procedure.

The assessment of the stage of disease is of utmost importance in oncology, because it is crucial for the adequate choice of treatment options and prognosis of the disease [3]. A good staging system should be valid and practical, based on and updated according to the latest scientific knowledge and achievements [4]. A unique staging classification for gynecological cancers, published by the International Federation of Gynecology and Obstetrics (FIGO), has been present since 1954, and it has been adopted by the American Joint Committee on Cancer (AJCC) since 1976 [3–5]. So far, all staging

Corresponding Author: Dr Nikola Anđelić, Institut za onkologiju Vojvodine, Univerzitet u Novom Sadu, Medicinski fakultet, 21204 Sremska Kamenica, Put dr Goldmana 4, E-mail: nikola.andjelic@mf.uns.ac.rs; nikola.andjelic92@gmail.com

Abbreviations

AJCC	– American Joit Commitee on Cancer
FIGO	– International Federation of Gynecology and Obstetrics
MRI	– magnetic resonance imaging
PET	– positron emission tomography
TNM	– tumor, nodes, and metastases
LVSI	– lymphovascular space invasion
CT	– computed tomography

systems for gynecological malignancies, except for cervical cancer and gestational trophoblastic neoplasia, have been modified and shifted from clinical to a surgical–pathological basis [4].

Very important changes in cervical cancer staging were made in a revision of the FIGO classification published in 2018. According to FIGO classification, the stage is determined for the purpose of disease prognosis and the choice of treatment procedure, from radical surgical method to chemo-radiation or palliative chemotherapy [3, 6]. The previous FIGO classification was based primarily on clinical assessment of the disease stage, based on gynecological examination and on the other diagnostic methods (hysteroscopy, cystoscopy, proctoscopy, colposcopy and biopsy) [6–8]. The main changes in the revised classification are inclusion of radiological imaging methods and pathological assessments in the determination of the stage of cervical cancer, at all stages of the disease, in addition to clinical assessment whenever radiological methods are available [8, 9].

Main changes and recommendations in the revised 2018 FIGO classification

A good staging system gives the most accurate information on the disease prevalence and prognosis [9]. In the new revised 2018 FIGO classification, the application of any available imaging modalities and/or pathological findings that complement and allow accurate estimation of tumor size is crucial, which is especially important in the first FIGO stage [9]. Imaging has the main role in the evaluation of the cancer size and its extensiveness [7]. Another major change is in the first stage of the disease where there are now three subgroups for stage IB [10].

The evaluation of pelvic and retroperitoneal para-aortic lymph nodes is now also included and it is introduced into the stage IIIC, accordingly.

Any available imaging method can be used to determine disease stages, including ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and less commonly hybrid imaging (PET/CT, PET/MRI) [9].

Endovaginal ultrasound examination can measure the size of the tumor and estimate infiltration of cervical stroma or parametria. Transabdominal ultrasound examination can diagnose hydronephrosis in the advanced stage of disease [3]. Among these radiological methods, the most superior is MRI due to its high resolution and tissue characterization, as well as the exact measurement of tumor size, assessment of local distension and evaluation of pathologically enlarged lymph nodes [11]. Carcinoma in situ is usually too small and often cannot be detected by MRI.

Pathologic diagnosis includes lymph node biopsy, fine needle biopsy and postoperative histopathological evaluation. If these methods are not available, as in undeveloped countries and in unequipped health centers, the previous method, such as clinical determination of the stage of cervical cancer, is applied.

Cervical cancer limited strictly to the cervix corresponds to stage I, and it is divided into subgroups IA and IB. Microscopic tumor invasion of the cervix less than 5 mm corresponds to stage IA, and depending on the depth of stromal invasion < 3 mm or > 3 mm, there are sub-stages IA1 and IA2. In the revised classification, lateral tumor extension is no longer considered [8, 9]. Stage IB corresponds to a clinically visible tumor (invasion depth greater than 5 mm). A significant change is the division of the stage IB into three subgroups IB1, IB2 and IB3, while previously there were two subgroups. This division is based on the measurement of maximum tumor dimensions in all three planes on imaging methods and pathology analysis [7]. A cut-off value for invasive carcinoma of less than 2 cm in the greatest dimension with stromal invasion of less than 5 mm in depth indicates stage IB1. The tumor ≥ 2 cm and < 4 cm corresponds to stage IB2, and the tumor size ≥ 4 cm to stage IB3.

In order to preserve the fertility of younger patients with stage IA1 disease, conization of the cervix can be used as a therapeutic method of choice. In early stages, IA2 and IB1, if the disease is confined to the upper third of vaginal canal and the greatest dimension of the lesion is less than or equal to 2 cm, radical trachelectomy is used [7, 9]. This new cut-off value for IB1 stage was introduced in 2018 classification. To preserve the fertility, a new approach to treating cervical cancer in the early stages such as stage IA2, conization, and laparoscopic pelvic lymphadenectomy should be considered. In such cases, the role of imaging techniques is essential. MRI of cervical cancer should detect a minimum distance of 1 cm between the isthmus of the uterus and stromal invasion. The possibility of applying these surgical procedures to preserve the reproductive function of young women with the early-stage disease has not been considered in older versions of FIGO classification.

The new division into stages IB1 and IB2 is of great importance because the tumor in these two stages usually has different characteristics. Low-grade adenocarcinoma is more often confirmed by histological examination in IB1 stage, which has a better prognosis than the high-grade squamous cell carcinoma [8, 10]. The risk of fatal outcome is twice higher in stage IB2 compared to IB1 [10]. According to new recommendations, if pathologically suspected enlarged lymph nodules are observed in the pelvis or retroperitoneum (para-aortic) regardless of tumor size, the disease stage is immediately classified as IIIC [9]. Histopathological findings of lymphovascular space invasion (LVSI) in cervical stroma invasion do not change the stage of the disease [8]. **Table 1** shows the main changes in 2018 revision com-

Table 1. Main changes in FIGO 2018 classification compared to FIGO 2009.
Tabela 1. *Glavne promene FIGO 2018 klasifikacije u poređenju sa FIGO 2009.*

FIGO 2009/*FIGO* 2009*	2018/*2018*	Comment/*Komentar*
IA: Invasive carcinoma with maximum depth of invasion ≤ 5 mm and largest extension ≤ 7 mm *IA: Invazivni karcinom sa maksimalnom dubinom invazije ≤ 5 mm i najvećom ekstenzijom ≤ 7 mm*	IA: Invasive carcinoma with maximum depth of invasion < 5 mm *IA: Invazivni karcinom sa maksimalnom dubinom invazije < 5 mm*	Lateral extent of the carcinoma is no longer considered in distinguishing between FIGO Stage IA and IB carcinomas. If margins of loop excision are involved the patient is allocated to Stage IB1./*Bočna ekstenzija tumora više nema uticaja na razlikovanje FIGO stadijuma IA i IB. Ako su margine ekscizije zahvaćene tumorom, pacijent se svrstava u stadijum IB1.*
IB: Clinically visible lesions limited to the cervix or pre-clinical cancers greater than stage IA *IB: Klinički evidentna bolest ograničena na cerviks ili pretklinička bolest veća nego u IA*	IB: Invasive carcinoma with measured deepest invasion ≥ 5 mm, lesion limited to the cervix uteri *IB: Invazivni karcinom sa maksimalnom dubinom invazije ≥ 5 mm, ograničen na cerviks uterusa*	LVSI must be commented upon, although it does not affect FIGO stage. *LVSI se mora navesti ako postoji, iako ne utiče na FIGO stadijum.*
IB1: Clinically visible lesion ≤ 4.0 cm in greatest dimension *IB1: Klinički evidentna bolest najvećeg dijametra ≤ 4,0 cm*	IB1: Invasive carcinoma ≥ 5 mm depth of stromal invasion, and < 2 cm in greatest dimension *IB1: Invazivni karcinom sa dubinom stromalne invazije ≥ 5 mm, i najvećeg dijametra < 2 cm*	New cut-off value for IB1 stage is introduced due to trachelectomy as a fertility-sparing treatment option/*Uvedena je nova granična vrednost za stadijum IB1 zbog trahelektomije kao terapijske opcije u cilju očuvanja fertiliteta*
	IB2: Invasive carcinoma ≥ 2 cm and < 4 cm in greatest dimension *IB2: Invazivni karcinom najvećeg dijametra ≥ 2 cm i < 4 cm*	
IB2: Invasive carcinoma > 4 cm in greatest dimension/*IB2: Invazivni karcinom najvećeg dijametra > 4 cm*	IB3: Invasive carcinoma ≥ 4 cm in greatest dimension/*IB3: Invasive carcinoma ≥ 4 cm in greatest dimension*	
There are no major changes in Stage II/*Nema većih promena u II stadijumu*		
There are no changes in Stages IIIA and IIIB/*Nema promena u IIIA i IIIB stadijumima*		
	IIIC: Involvement of pelvic and/or para-aortic lymph nodes, irrespective of tumor size and extent (with r and p notations)/*IIIC: Zahvaćenost karličnih ili paraaortnih limfnih čvorova, nezavisno od veličine tumora i proširenosti (sa r i p oznakama)*	New stage category. Notation of r (imaging) and p (pathology) is added to indicate the findings that are used to allocate the case to Stage IIIC *Nova kategorija stadijuma. Oznake r (radiološki) i p (patološki) označavaju na osnovu koje dijagnostičke metode je određen stadijum IIIC*
	IIIC1: Pelvic lymph node metastasis only/*IIIC1: Metastaze samo u karličnim limfnim čvorovima*	
	IIIC2: Para-aortic lymph node metastasis/*IIIC2: Metastaze u paraaortnim limfnim čvorovima*	
There are no changes in Stage IV/*Nema promena u IV stadijumu*		

**FIGO – Međunarodna federacija ginekologa i opstetričara*

pared to the one published in 2009 [12]. The **Table 2** shows a comparison between tumor, nodes, and metastases (TNM) and FIGO classification [13].

Stage II cervical carcinoma (FIGO II)

If cancer spreads beyond the borders of cervix, but does not affect the lower third of the vagina and the pelvic walls, it is classified as stage II, which is divided into stages IIA and IIB. The tumor that does not infiltrate parametria is stage IIA, that is further divided into IIA1 and IIA2, depending on its size < 4 cm or ≥ 4 cm. Stage IIB is parametria-infiltrating cancer. However, if pathological lymph nodes are detected, the disease stage is IIIC. MRI plays an important role in the assessment of parametrial infiltration.

Stage III cervical carcinoma (FIGO III)

Cervical cancer in stage III infiltrates the lower third of the vagina (IIIA) or reaches to and infiltrates the pelvic walls and/or causes hydronephrosis

Table 2. Comparison of the TNM and FIGO staging systems
Tabela 2. *Komparacija TNM i FIGO sistema klasifikacije*

TNM Categories *TNM kategorije*	FIGO Stages *FIGO stadijum*	Surgical-pathologic findings *Hirurški/patološki nalaz*
TX/*TX*		Primary tumor cannot be assessed/*Nije moguća procena primarnog tumora*
T0/*T0*		No evidence of primary tumor/*Nema dokaza o primarnom tumoru*
Tis/*Tis*		Carcinoma in situ/*Karcinom in situ*
T1/*T1*	I/*I*	Cervical carcinoma confined to the cervix/*Cervikalni karcinom ograničen na cerviks*
T1a *T1a*	IA *IA*	Invasive carcinoma with stromal invasion, maximum depth of < 5.0 mm *Invazivni karcinom sa maksimalnom dubinom invazije < 5 mm*
T1a1 *T1a1*	IA1 *IA1*	Measured stromal invasion < 3.0 mm in depth *Izmerena stromalna invazija dubine < 3 mm*
T1a2 *T1a2*	IA2 *IA2*	Measured stromal invasion ≥ 3.0 mm and < 5.0 mm *Izmerena stromalna invazija dubine ≥ 3 mm i < 5 mm*
T1b *T1b*	IB *IB*	Invasive carcinoma with measured deepest invasion ≥ 5 mm, lesion limited to the cervix/*Invazivni karcinom sa maksimalnom dubinom invazije ≥ 5 mm, lezija ograničena na cerviks*
T1b1 *T1b1*	IB1 *IB1*	Invasive carcinoma with ≥ 5 mm depth of stromal invasion and < 2 cm in greatest dimension/*Invazivni karcinom sa dubinom stromalne invazije ≥ 5 mm i najvećeg dijametra < 2 cm*
T1b2 *T1b2*	IB2 *IB2*	Invasive carcinoma, 2 cm to < 4 cm in greatest dimension *Invazivni karcinom najvećeg dijametra 2 cm do < 4 cm*
T1b3 *T1b3*	IB3 *IB3*	Invasive carcinoma, ≥ 4 cm in greatest dimension *Invazivni karcinom najvećeg dijametra ≥ 4 cm*
T2 *T2*	II *II*	Cervical carcinoma invades beyond uterus but not to pelvic wall or to lower third of vagina/*Cervikalni karcinom se širi izvan uterusa ali ne zahvata karlični zid ili donju trećinu vagine*
T2a *T2a*	IIA *IIA*	Involvement limited to the upper two-thirds of the vagina, without parametrial invasion *Karcinom ograničen na gornje dve trećine vagine, bez zahvatanja parametrijuma*
T2a1 *T2a1*	IIA1 *IIA1*	Invasive carcinoma < 4 cm in greatest dimension *Invazivni karcinom najvećeg dijametra < 4 cm*
T2a2 *T2a2*	IIA2 *IIA2*	Invasive carcinoma ≥ 4 cm in greatest dimension *Invazivni karcinom najvećeg dijametra ≥ 4 cm*
T2b *T2b*	IIB *IIB*	Tumor with parametrial invasion but not up to the pelvic wall *Tumor zahvata parametrijum ali ne dopire do karličnog zida*
T3 *T3*	III *III*	Carcinoma involves the lower third of the vagina and/or extends to the pelvic wall and/or causes hydronephrosis or nonfunctioning kidney and/or involves pelvic and/or para-aortic lymph nodes/*Karcinom zahvata donju trećinu vagine i/ili širi se do karličnog zida i/ili izaziva hidronefrozu ili remeti rad bubrega i/ili zahvata karlične i/ili paraaortne limfne čvorove*
T3a *T3a*	IIIA *IIIA*	Tumor involves lower third of vagina, with no extension to pelvic wall *Karcinom zahvata donju trećinu vagine bez širenja do karličnog zida*
T3b *T3b*	IIIB *IIIB*	Tumor extends to pelvic wall and/or causes hydronephrosis or nonfunctional kidney *Tumor se širi do karličnog zida i/ili izaziva hidronefrozu ili remeti rad bubrega*
T3c *T3c*	IIIC *IIIC*	Involvement of pelvic and/or para-aortic lymph nodes, irrespective of tumor size and extent/*Zahvatanje karličnih ili paraaortnih limfnih čvorova nezavisno od veličine tumora*
T3c1/*T3c1*	IIIC1/*IIIC1*	Pelvic lymph node metastasis only/*Metastaze samo u karlične limfne čvorove*
T3c2/*T3c2*	IIIC2/*IIIC2*	Para-aortic lymph node metastasis/*Metastaze u paraaortne limfne čvorove*
T4 *T4*	IV *IV*	The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum/*Karcinom se prostire izvan male karlice ili zahvata mukozu mokraćne bešike ili rektuma (potvrđeno biopsijom)*
	IVA/*IVA*	Spread to adjacent pelvic organs/*Širi se u okolne karlične organe*
	IVB/*IVB*	Spread to distant organs/*Širi se u udaljene organe*

Legenda: TNM – tumor, čvor, metastaze, FIGO – Međunarodna federacija ginekologa i opstetričara

(IIIB). According to previous versions of the FIGO classification, cervical cancer was understaging 20–40% of IB - IIIB cases, and overestimating 64% to stage IIIB [7, 8].

A new subgroup of stage III is stage IIIC which is divided depending on whether the affected lymph nodes are in the pelvis (IIIC1) or in the retroperitoneum, paraaortic (IIIC2) [10]. Previous versions of the FIGO classification did not include assessment of lymph nodes, which is one of the most important prognostic factors and affects the choice of treatment [10, 14]. In these patients, the prognosis is usually poor and the five-year survival rate is much lower [9]. Imaging methods have the main role in the detection of suspected pathological lymph nodes with a sensitivity of 60–88% and a specificity of 97% [9]. The additional features *r* (imaging) and *p* (pathology) indicate the methods that were used in the determination of stage IIIC. If any of the imaging methods detects pelvic lymph nodes that are suspected to be metastatic lymph nodes, then the disease stage is evaluated as IIIC1r, and if it is confirmed pathologically, the stage is marked as IIIC1p. It is now necessary to note by which method the stage of the disease was assessed. It is also a rule, if there is a doubt about the stage or sub-stage of cervical cancer, the lower stage should be assigned [8, 9]. In stage III, five-year survival rate varies and it is interesting that for IIIA it is 46%, for IIIB 42.6% and for IIIC1 it is the highest, 62.1% [8]. Stage IIIC1 is a heterogeneous group of cervical cancers and there is a wide range of survival rates depending primarily on local tumor factors [10].

Stage IV cervical carcinoma (FIGO IV)

Stage IV remained unchanged in the 2018 FIGO classification. When cancer infiltrates the bladder or rectal mucosa it is stage IVA, and if there are distant metastases then it is stage IVB. Infiltration of the rectum or bladder mucosa should be confirmed by histology. For example, MRI should point to suspected infiltration of these organs when no line of fat is visible between the organs. If a "fat line" exists, infiltration can be excluded. If the fat line cannot be seen, it is necessary to confirm the infiltration by other examinations, by cystoscopy or proctosigmoidoscopy with a histopathological confirmation.

X-ray examination of the thorax or CT of the thorax and abdomen are most commonly used to evaluate the dissemination of locally advanced cancer, and PET/CT is used in the case of specific clinical indication.

Magnetic resonance imaging and PET/CT imaging modalities are the best to evaluate the lymph nodes. At present, PET/CT has an important diagnostic role due to its high sensitivity especially for paraaortic lymph nodes and occult distant metastases [7]. When evaluating lymph nodes, their morphological characteristics and the measurement of shorter axial diameter are important [7]. Lymph nodes most likely involved by a metastatic process have a shorter axial diameter ≥ 10 mm, and most likely pathologic lymph nodes are those with a diameter ≥ 15 mm [15].

Therefore, the assessment of the stage is extremely important in order to select the optimal treatment procedure. Radical hysterectomy with lymphadenectomy is reserved for early-stage disease, IB - IIA, while radiochemotherapy is an option for larger cancers in stage IIB and other stages [7, 16, 17]. For the management of locally advanced cervical cancer with negative lymph nodes on radiological staging, definitive platinum-based chemoradiotherapy and brachytherapy are the preferred procedures [13]. Stage IB1 can be treated surgically or by radiation therapy [3]. According to the new recommendations, patients with enlarged metastatic lymph node (IIIC) diagnosed by imaging are not candidates for surgery, but they can be treated by chemotherapy [3, 7]. Palliative chemotherapy is indicated in cases of distant metastases [3]. In advanced stages of the disease, such as IVA in a case of free parametria, the treatment of choice is pelvic exenteration, including radical hysterectomy and bilateral adnexectomy with pelvic and paraaortic lymphadenectomy. Depending on which organ of the pelvis is involved, urinary bladder and/or rectum should also be surgically removed.

Conclusion

The 2018 International Federation of Gynecology and Obstetrics staging includes surgical risk factors and lymph nodes status, primarily due to the inclusion of radiological diagnostic modalities, but also pathological diagnostics in the staging of cervical cancer, which have exceptional value. By dividing stage IB into three sub-stages and introducing stage IIIC, the modified International Federation of Gynecology and Obstetrics classification of cervical cancer plays a significant role in the prognosis of the disease and the assessment of the five-year survival of women with a particular stage of the disease. The exact assessment of the stage of the disease and the application of the optimal therapeutic approach are most important. Therefore, these innovations in the International Federation of Gynecology and Obstetrics classification will also have an impact on developing countries that, apart from the clinical determination of the stage of cervical cancer, tend to include imaging techniques into the diagnosis and staging of cervical cancer, especially in cases of fertility-sparing approach.

References

1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68(6):394-424.

2. Bhatla N, Aoki D, Sharma DN, Sankaranarayanan R. Cancer of the cervix uteri. Int J Gynaecol Obstet. 2018;143 Suppl 2:22-36.

3. Jolly S, Uppal S, Bhatla N, Johnston C, Maturen K. Improving global outcomes in cervical cancer: the time has come for International Federation of Gynecology and Obstetrics staging to formally incorporate advanced imaging. J Glob Oncol. 2018;(4):1-6.

4. Odicino F, Pecorelli S, Zigliani L, Creasman WT. History of the FIGO cancer staging system. Int J Gynaecol Obstet. 2008;101(2):205-10.

5. Olpin J, Chuang L, Berek J, Gaffney D. Imaging and cancer of the cervix in low- and middle-income countries. Gynecol Oncol Rep. 2018;25:115-21.

6. Haldorsen IS, Lura N, Blaakær J, Fischerova D, Werner HMJ. What is the role of imaging at primary diagnostic work-up in uterine cervical cancer? Curr Oncol Rep. 2019;21(9):77.

7. Lee SI, Atri M. 2018 FIGO staging system for uterine cervical cancer: enter cross-sectional imaging. Radiology. 2019;292(1):15-24.

8. Berek JS, Matsuo K, Grubbs BH, Gaffney DK, Lee SI, Kilcoyne A, et al. Multidisciplinary perspectives on newly revised 2018 FIGO staging of cancer of the cervix uteri. J Gynecol Oncol. 2019;30(2):e40.

9. Bhatla N, Berek JS, Cuello Fredes M, Denny LA, Grenman S, Karunaratne K, et al. Revised FIGO staging for carcinoma of the cervix uteri. Int J Gynaecol Obstet. 2019;145(1):129-35.

10. Matsuo K, Machida H, Mandelbaum RS, Konishi I, Mikami M. Validation of the 2018 FIGO cervical cancer staging system. Gynecol Oncol. 2019;152(1):87-93.

11. Hameeduddin A, Sahdev A. Diffusion-weighted imaging and dynamic contrast-enhanced MRI in assessing response and recurrent disease in gynaecological malignancies. Cancer Imaging. 2015;15(1):3.

12. Singh N, Rous B, Ganesan R. 2018 FIGO staging system for cervical cancer: summary and comparison with 2009 FIGO staging system. BAGP Information document: 2018 FIGO staging system for cervix cancer, version 1.2 [Internet]. 2019 Feb. [cited 2020 Oct 7]. Available from: https://www.bgcs.org.uk/wp-content/uploads/2019/05/BAGP-2018-FIGO-Cervix-Ca-staging-doc-v1.2.pdf.

13. Cibula D, Potter R, Planchamp F, Avall-Lundqvist E, Fischerova D, Haie-Meder C, et al. The European Society of Gynaecological Oncology/European Society for Radiotherapy and Oncology/European Society of Pathology guidelines for the management of patients with cervical cancer. Virchows Arch. 2018;472(6):919-36.

14. Grigsby PW. PET/CT imaging to guide cervical cancer therapy. Future Oncol. 2009;5(7):953-8.

15. Eisenhauer EA, Therasse P, Bogaerts J, Schwartz LH, Sargent D, Ford R, et al. New response evaluation criteria in solid tumours: revised RECIST guideline (version 1.1). Eur J Cancer. 2009;45(2):228-47.

16. Yan DD, Tang Q, Chen JH, Tu YQ, Lv XJ. Prognostic value of the 2018 FIGO staging system for cervical cancer patients with surgical risk factors. Cancer Manag Res. 2019;11:5473-80.

17. Đurđević S, Višnjevac V, Kermeci K. The Wertheim-Meigs radical hysterectomy in surgical treatment of cervical carcinoma. Med Pregl. 2001;54(91-0):465-9.

Rad je primljen 9. VIII 2020.
Recenziran 24. VIII 2020.
Prihvaćen za štampu 7. X 2020.
BIBLID.0025-8105:(2020):LXXIII:5-6:158-163.