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ROLE OF ROUTINE COMPREHENSIVE SYSTEMATICPELVIC LYMPHADENECTOMY IN THE MANAGEMENT OF ENDOMETRIAL CANCER: A RETROSPECTIVE COHORT STUDY

By

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ABSTRACT

Background: Endometrial cancer is the fifth most common cancer among women worldwide. Systematic lymphadenectomy of pelvic lymph nodes (LN) and para-aortic are often part of surgical staging. This procedure is not done universally. The therapeutic effects of lymphadenectomy are issues of great debate. Complications of lymphadenectomy including lymphadenoma and lymphatic cysts can affect patients' quality of life.

Objective: To evaluate the use of systematic pelvic lymphadenectomy in the management of endometrial cancer.

Patients and Methods: A descriptive retrospective cohort study was conducted in multi-centric three national cancer institutes (Tripoli, Misurata, and Sabratha) located at Western -Northern Libya, from January 2020 toMay2022. A total number of 180 diagnosed endometrial cancer cases were enrolled in the study. In all cases routine systematic pelvic lymphadenectomy was conducted. The primary outcome measure was the rate of lymph node metastases in relation to tumor (size, depth of endometrial invasion, grade, histopathological findings, and lymph-vascular space invasion) and patients' characteristics (age, parity, co-morbidities including obesity).

Results: There was no significant association between lymph node metastasis and patients' characteristics. Patients were divided into two groups: below sixty years old and above sixty, menstrual status into premenopausal, and postmenstrual, parity, nullipara, and multipara, obesity body mass index (BMI) below 25 and above 25, and presence or absence of comorbidities.

There were significant associations with all tumor factors except tumor size. Stage I represented nearly 60% of sample (59.44%), stage II 18.9%, stage III 18.3%, and stage IV (3.3%). Low risk patients (FIGO stage I, grade 1-2) had 6.52% lymph node; intermediate risk (FIGO stage II, any grade) had 17.65% lymph node invasion, and high risk (FIGOIII, and FIGO IV 84.8%, and 100% respectively. (The overall incidence of lymph node metastasis in clinically uterine-confined endometrial cancer was proportionally increasing

with the increase in grading. (About 9% in grade 1, 19% in grade 2, and 76% in grade 3). Lymph node metastasis occurred in 11% of cases with less than 50% myometrial invasion, compared with about 38% of patients with more than 50% myometrial invasion. Histopathologically more invasion occurred with poorly differentiated tumors (64%), and the least occurred with endometrioid carcinoma (23%). Lymph-vascular space invasion significantly affected lymph node metastasis, it occurred in 15.2% of low risk group (FIGO stage I) was highest (100%) in high risk group (FIGO stage IV).

Conclusion: Use of more precise and less aggressive methods may be useful to predict tumor aggressiveness and lymph node metastasis. Such methods include preoperatively the use of molecular markers, computerized tomogram scan (CT), magnetic resonance images (MRI), ultrasound scanning, and the intra-operatively use of sentinel lymph nodes mapping during surgical procedures. These investigations should be considered to assess ovarian, nodal, peritoneal, and other sites of metastatic disease.

Key words: Endometrium cancer, pelvic lymphadenectomy, prognostic factors.

INTRODUCTION

Endometrial cancer is the fifth most common cancer among women worldwide *(Frost et al., 2017)*. Endometrial cancer has been classified into two main clinic pathological types: type I is the more common endometrioid adenocarcinoma (80%–90%), and type II comprises non-endometrioid subtypes such as serous, clear cell and undifferentiated carcinomas, as well as carcinosarcoma/malignant-mixed Müllerian tumor (10%–20%) *(Colombo et al., 2016)*. Most cases of endometrial cancer present with early-stage disease (90%), without metastasis *(Khoury et al., 2016)*.

Risk factors are related to excessive unopposed exposure of the endometrium to estrogen, including unopposed estrogen therapy, early menarche, late menopause, tamoxifen therapy, nulliparity, infertility or failure to ovulate, and polycystic ovary syndrome. Additional risk factors are increasing age, obesity, hypertension, diabetes mellitus, and hereditary nonpolyposis colorectal cancer *(Braun et al., 2016)*.

A study in western Libya stated that the most common malignanciesin women were breast and uterine cancer. In Libya the standard of treatment of endometrial cancer consists of hysterectomy and bilateral salpingo-oophorectomy, and includes comprehensive systematic pelvic lymphadenectomy which is done routinely during the surgical procedure for staging, and as treatment option *(Ismail et al., 2021)*.

Systematic lymphadenectomy of pelvic lymph nodes is used with paraaortic lymphadenectomy selectively or routinely in USA and Japan. This procedure is not done universally, in the United Kingdom, where lymphadenectomy is not a common procedure. The therapeutic effects of lymphadenectomy are an issue of great debate *(Todo et al., 2010)*. Comprehensive lymphadenectomy result in prolonged operating time which leads to many complications, including wound infection, hemorrhage, vascular and nerve injury, and complications of prolonged anesthesia *(Khoury et al., 2016)*.

Other acceptable surgical strategies between a complete lymphadenectomy and no nodal evaluation in patients with endometrial cancer, including Sentinel Lymph Nodal (SLN) mapping (imaging procedure lymphography). This approach is based on the concept that lymph node metastasis is the result of an orderly process; that is, lymph drains in a specific

pattern away from the tumor, and therefore, if the SLN, or first node, is negative for metastasis, then the nodes after the SLN should also be negative *(Smith, 2017)*. Sentinel lymph node mapping is feasible and accurately predicts nodal status in women with endometrial cancer. The current data favors the use of cervical injection techniques with indocyanine green. Sentinel lymph mapping may be considered an alternative standard of care in the staging of women with endometrial cancer *(Accorsi et al., 2020)*.

The aim of the current study was to examine the need for routine pelvic systematic lymph node dissection in the management of endometrial cancer,and to focus on the relation between lymph node metastasisand both prognostic factors (myometrial invasion, tumor grade, FIGO stage, lymph vascular space invasion) andpatients' characteristics.

PATIENTS AND METHODS

A descriptive retrospective cohort study was conducted in multi-centric three national cancer institutes (Tripoli, Misurata, and Sabratha) located at Western -Northern Libya, from January 2020 to May 2022. A total number of 180 cases were enrolled in the study. The primary outcome measure was the rate of lymph node metastases in relation to tumor and patients' characteristics.

Women were diagnosed as having endometrial cancer and received surgical treatment including hysterectomy and bilateral salpingo-oophorectomy. Routine systematic lymphadenectomy was done routinely in all the patients in the three cancer institutes with systematic pelvic lymphadenectomy included resection of the internal iliac nodes, external iliac nodes, medial deep inguinal nodes, obturator nodes, common iliac nodes, and circumflex iliac node resection.

Pelvic lymph nodes metastasis was studied in relation to patients' and tumor characteristics and divided into two groups: below sixty years old and above sixty, menstrual status into premenopausal, and postmenstrual, parity, nullipara, and multipara, obesity body mass index (BMI) below 25 and above 25, and presence or absence of comorbidities.

Tumor factors include, size, depth of myometrial invasion, histopathology, FIGO classification, grading and, lymph vascular space invasion.

Statistical Analysis:

Association of variables with lymph nodes (LN) Metastases was assessed with Chi-Square test, χ^2 test. Data were represented as frequencies and percentages. Odds ratio were estimated by the Logistic regression. The odds ratio compares the odds of two events: presence/occurrence of LN Metastases and absence of LN Metastases. P values of less than 0.05 were considered significant.

RESULTS

One hundred and eighty (180) patients with malignant tumors of the uterine corpus had been registered in three cancer treatment institutions in Libya: Tripoli (n=77, 43%), Misurata (n=38, 21%) and Sabratha (n=65, 36%). Regarding patients' characteristics in relation to lymph node metastasis in the study sample, patients less than 60 years represented 55% (99 cases, lymph node metastasis was present in quarter of them (28%), while lymph node metastasis was present in one third of cases (31%) over sixty years old.

Peri-menopausal patients nearly quarter of the sample, 27% of them with nodal metastasis. While 30% of postmenopausal had nodal metastasis. Parity: nulliparity was in nearly half the sample with nodal metastasis in quarter of them (27%). While nodal metastasis found in third of multipara patients.54% of the sample have one or more comorbidities such Hypertension and Diabetes Miletus, however, only 20% of the sample has a family history of malignancies. 74% of the sample is obese with BMI>25. In terms of Histopathological types of Endometrial cancer: Endometrioid (n=142, 79%), Poorly Differentiated (n=14, 8%), Serous (n=12, 7%), Sarcoma (n=11, 6%) and one case of Mucinous **(Figure 1)**.

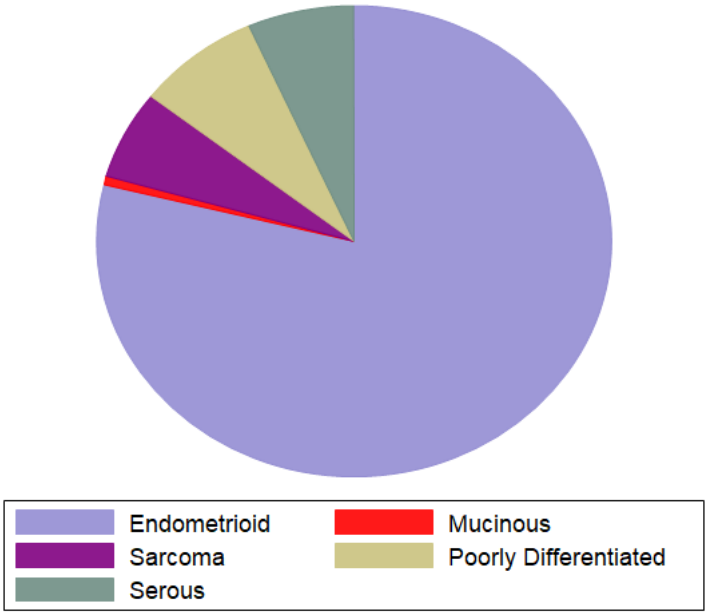

Figure (1): Distribution of Histopathological types of Endometrial Cancer

The probability of a patient with LN metastasis was the same across patient characteristics and tumor factors **(Table 1)**. There was no significant association between LN metastasis and patients' characteristics. However, there was a significant association with all tumor factors except tumor size.

Table (1): Patient Parameters and Tumor factors in relation to Pelvic Lymph Node Metastasis

Patients' Parameters	Patients (180 cases) Number	%	Lymph Node Metastasis Number	%	Chi-Square Test: Significance
Age (years):					
- **< 60 years**	99	(55%)	28	(28 %)	P = 0.705
- **> 60 years**	81	(45%)	17	(31 %)	
Menopausal status:					
- **Peri-menopausal.**	44	(24.4 %)	12	(27%)	P = 0.800
- **Postmenopausal.**	136	(75.56%)	41	(30%)	
Parity:					
Nullipara	84	(47%)	23	(27%)	P = 0.570
Multipara	96	(53 %)	30	(31%)	
Body Mass Index (BMI):					
- **Below 25**	47	(26 %)	16	(34 %)	P = 0.421
- **Above 25.**	133	(74%)	37	(28%)	
Co-morbidity:					
- **No**	83	(46%)	23	(28%)	P = 0.637
- **Yes**	97	(54 %)	30	(31%)	
FIGO Surgical Staging:					
I	92	(51%)	6	(15.2%)	P < 0.001
II	34	(16.2%)	6	(17.6%)	
III	33	(16.1 %)	28	(84.8%)	
IV	6	(3 %)	6	(100 %)	
Tumor size:					
< 2cm.	13	(7 %)	2	(15 %)	P = 0.248
> 2cm	167	(93%)	51	(31%)	
Myometrial invasion:					
< ½ thickness.	56	(31%)	6	(11%)	P < 0.001
> ½ thickness	124	(69 %)	47	(38%)	
Grade:					
I	53	(30%)	5	(9%)	P < 0.001
II	85	(47 %)	16	(19%)	
III	42	(23 %)	32	(76%)	
Type of tumor:					
- **Endometroid**	142	(79 %)	33	(23%)	P < 0.001
- **Serous**	12	(7 %)	7	(58%)	
- **Poorly differentiated**	14	(8%)	6	(43 %)	
- **Adenosarcoma**	11	(6%)	7	(64%)	
- **Mucinous**	1	(1 %)	0	(0%)	
Lymph-vascular space invasion:					
-Present.	67	(37%)	41	(61 %)	P < 0.001
-Absent	113	(63%)	12	(11%)	

Out of the 180 patients there were 53 cases (29%) that show positive LN Metastasis. Patients had been categorized into different groups based on International Federation of Gynecology and Obstetrics (FIGO) stages and Tumor Grade **(Table 2)**. Table 3 shows Lymph Node Metastasis and Lymph-vascular space invasion (LVSI) distribution according to Risk classification respectively.

Table (2): FIGO Staging of Endometrial Cancers

Parameters / FIGO Staging	Classification	Grade	No of patients (180)	%
Stage I	Tumor confined to the corpus uteri IA: less than half myometrial invasion IB: Invasion equal to or more than half of the myometrium	I-II	107	59.44
Stage II	Tumor invades cervical stroma, but does not extend beyond the uterus	Any	34	18.89
Stage III	Local and/or regional spread of the tumor	Any	33	18.33
Stage IV	Tumor invades bladder and/or bowel mucosa, and/or distant metastases	Any	6	3.33
Total			180	100

Table (3): Lymph Node Metastasis and Lymph-vascular space invasion (LVSI) distribution according to Risk classification

Parameters / Risk Classification	Tumor Grade	Patient No.	Lymph Node Metastasis	%	Lymph-vascular space invasion (LVSI)	%
Low Risk FIGO stage I	Grade I-II	92	6	6.52	14	15.22
Intermediate Risk FIGO stage II	Any Grade	34	6	17.65	12	35.29
High Risk **FIGO stage III** **FIGO stage IV**	Any Grade	33 6	28 6	84.85 100	23 6	70 100

The probability of having a negative LN Metastasis decreases with FIGO classification. The probability of patient with presence relative to absence LN Metastasis increases with FIGO classification especially in the III and IV classification **(Figure 2)**. So, we can reject the null hypothesis and claim there is evidence of a statistically significant association between LN Metastasis and FIGO classification (χ^2 (3) = 80.8 Pr = 0.000). Similar pattern is found regarding the association between LN Metastasis and Grade classification **(Figure 2)**. The probability of patient with Metastasis increases with Grade specification (χ^2 (2) =59 Pr = 0.000).

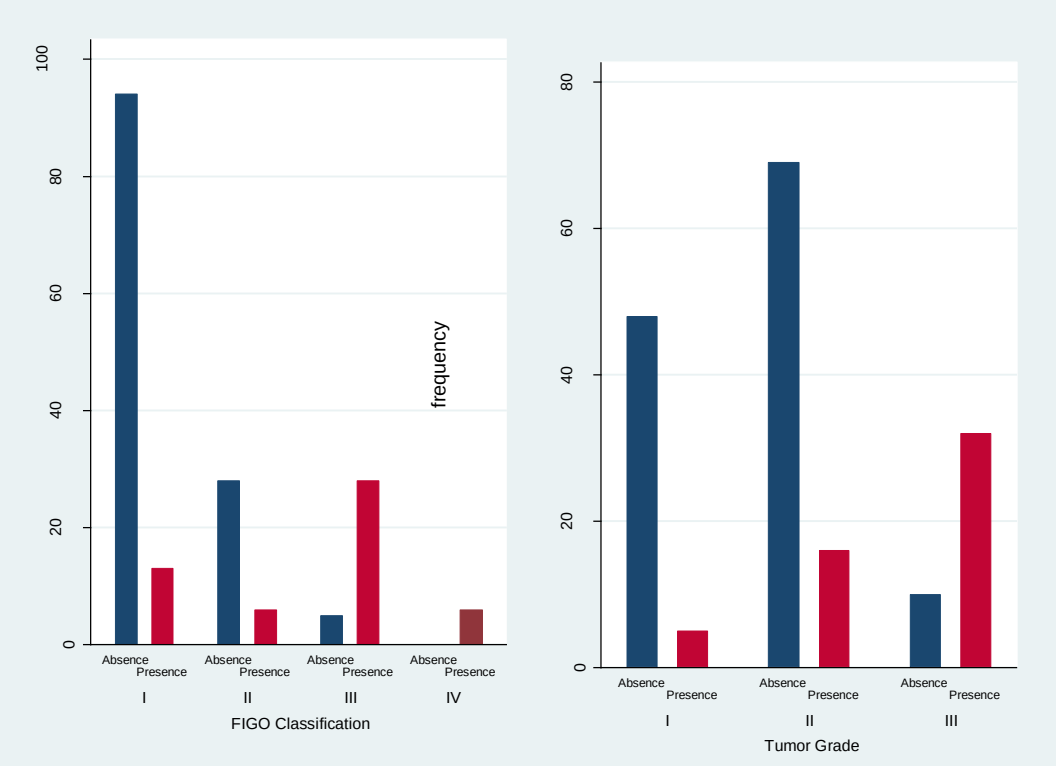

Figure (2): Distribution of FIGO classification and Tumor Grade within LN Metastasis groups

The logistic regression tests the factors that can help to predict if a patient would be in the negative or positive LN Metastasis groups. It generates odds ratio which is a measure of association between a certain factor and LN Metastasis in a population. Specifically, it shows how the presence of each factor has an effect on the presence of LN Metastasis.

Our binary dependent variable is LN Metastasis (0 if absence, 1 if presence). The independent variables are: FIGO classification (I, II, III and IV)1. Grade classification (I, II and III), with classification I as the reference group. Myometrial invasion (0 if <50%, 1 if >50%) and LVSI is 0 if there is no invasion, 1 if there is lymph vascular invasion. Tumor size is 0 for <2cm, 1 for >2cm). Patients with comorbidities such as hypertension and diabetes are categorized as 1 and 0 if there are no comorbidities. Patients with a family history are represented by 1 while patients with no family history are represented by 0.

From the regression result, going up from one level of FIGO to the next multiplies the odds of positive LN Metastasis by 4.95 ($p<0.001$). For Grade there was no difference between Grade I and Grade II in predicting relative risk of having positive LN Metastasis, however, patients with Grade III classification are 7.12 times more likely to have positive LN Metastasis than those with Grade I classification ($p<0.05$). Also patients with Myometrial Invasion more than 50% have a 7.12 times the odds of the group with less than 50% Myometrial Invasion of having positive LN Metastasis ($p<0.05$). The odds are 4.12 times higher that a patient with Lymph vascular invasion will have positive LN Metastasis compared to a patient with no Lymph vascular invasion ($p<0.05$). The patient group with comorbidities has 2.68 times the odds of the non- comorbidities group of having LN Metastasis ($p<0.10$). Tumor size and Family history are insignificant; there is no evidence that these factors are associated with positive LN Metastasis **(Table 4)**.

Table (4): Logistic Regression of LN metastasis with group of parameters

LN Metastasis	Odds Ratio	Std. Err.	Z	p>|z|	[95% conf. Interval	
FIGO	4.956732	1.660383	4.78	0.000	2.570774	9.557119
Grade						
II	0.7774077	0.5505439	-0.36	0.722	0.1940196	3.114957
III	7.128198	5.849579	2.39	0.017	1.427126	35.60387
Myometrial Invasion	3.62899	2.371813	1.97	0.049	1.008005	13.06498
LVSI	4.123127	2.324456	2.51	0.012	1.365692	12.44803
Comorbidities	2.686689	1.506119	1.76	0.078	0.8954598	8.060996
Tumour size	0.79722	0.7557296	-0.24	0.811	0.1243602	5.110676
Family History	1.741911	1.353671	0.71	0.475	0.379788	7.989332
_cons	0.0019213	0.0025376	-4.74	0.000	0.0001443	0.0255758

Number of observations= 180. LR chi2(8) =112.62. Prob > chi2<0.0001. Log likelihood=-52.783322. Pseudo R2=0.5162

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[1]Due to "Perfect Separation" FIGO was not reported in categories. Category IV perfectly predicts success perfectly as all observations in this category are in the positive LN metastasis group. Statistical packages like STATA exclude such extremely highly predictive variables, because if a category produces perfect separation, there is no need for a model to inform us of that.

DISCUSSION

In this study, we investigated the role of routine use of pelvic systematic lymphadenectomy in the management of all cases uterine cancer. We found that in low-risk patients where tumor grade I-II and FIGO classification I, only 6.52% of cases had lymph node metastasis, stage I represented 59.4% of all the cases in the study. These patients should not be subjected to comprehensive pelvic lymphadenectomy. Lymphadenectomy can be considered for staging purposes in patients with high risk factors.

Neubauer et al. (2011) discussed that lymphadenectomy as a part of surgical staging is not required in patients assessed intraoperative to be at low risk for lymph node metastasis (<2 cm in size, grade 1 tumors with superficial myometrial invasion), however, a systematic lymph node dissection should be performed in most other patients with endometrial cancer. Selective lymph node dissection will improve survival and spare patients' additional surgical complications or unnecessary postoperative exposure to radiation and/or chemotherapy.

Braun (2016) stated that pelvic and para-aortic lymphadenectomy remain controversial. Several studies have noted an associated improvement in survival, whereas others have not. There is no consensus about which patients will require lymph node staging.

Colombo et al. (2016) and *Philippe et al. (2016)* stated that patients with low risk endometrioid carcinoma (grade 1 or 2 and superficial myometrial invasion <50%) have a low risk of lymph node involvement. Therefore, lymphadenectomy is not recommended for these patients. Patients with intermediate risk (deep myometrial invasion >50% or grade 3 with superficial myometrial invasion <50%), data have not shown a survival benefit of systematic lymphadenectomy. Lymphadenectomy can be considered for staging purposes in these patients. Patients with high risk (grade 3 with deep myometrial invasion >50%), lymphadenectomy should be recommended. Lymphadenectomy to complete staging could be considered in previously incompletely operated high-risk patients to tailor adjuvant therapy.

Concin et al. (2020) suggested pre- and intra-operative work-up by risk group allocation on biopsy according to FIGO grading of endometrial carcinoma is required for adequate planning of therapy. Histopathologic grade has prognostic relevance. A modified binary FIGO grading is recommended lumping together grade 1 and grade 2 endometrioid carcinomas as low-grade and grade 3 as high-grade. Uses of magnetic resonance imaging (MRI) techniques are highly specific in the assessment of deep myometrial invasion, cervical stromal involvement, and lymph node metastasis. Positron emission tomography (PET) scanning has an excellent specificity for the pre-operative assessment of lymph node metastases in patients with endometrial carcinoma. A pre-operative computerizes tomogram (CT) scan has a clinical utility in patients with endometrial carcinoma in detecting metastatic disease. Frozen section of endometrial biopsy material is obsolete. Myometrial invasion should not be assessed by frozen section.

Raffone et al. (2022) suggested that sentinel lymph node (SLN) biopsy

through cervical injection may be routinely adopted instead of systematic pelvic and para-aortic lymphadenectomy in surgical staging for high-risk groups of early-stage endometrial cancer patients, as well as in low-risk groups. Lymphadenectomy carries the risk of increased morbidity, including lymphoedema, lymphocyst formation, and nerve injury. Moreover, it is technically difficult to perform in the obese population, which represents a large proportion of patients with endometrium cancers.

Accorsi et al. (2020) explained that sentinel lymph node (SLN) mapping does not increase morbidity in the surgical treatment of endometrial cancer patients, and compared with comprehensive lymphadenectomy, it has a lower risk of complications. Our findings support the use of the SLN algorithm in endometrial cancerpatients.

Raffone et al. (2022) stated that sentinel lymph node (SLN) biopsy has shown the potential to significantly reduce the risk of post-operative morbidity and long-term complications. Additionally, it may be associated with a more intensive pathologic assessment (i.e., ultra-staging), with the advantage of detecting low-volume metastasis, which could be missed by standard histological examination SLN biopsy through cervical injection may be routinely adopted instead of systematic pelvic and para-aortic lymphadenectomy in the surgical staging for high-risk groups of early-stage EC patients, as well as in low-risk groups.

The National Comprehensive Cancer Network (NCCN) guidelines in 2014, approved the sentinel lymph node (SLN) biopsy as an alternative to systematic lymphadenectomy for the staging of apparent uterine-confined endometrial cancers in selected cases.*(National Comprehensive Cancer Network®,2021).*

CONCLUSION

According to results observed in this study, lymph nodes were involved more in stage III &IV non-endometroid cancers. Systematic lymphadenectomy should not be used routinely in the management of endometrial cancer. It should be replaced by other methods. Use of more precise and less aggressive methods to detect lymph node metastasis such as the use of frozen sections, sentinel lymph nodes during surgical procedures, and molecular markers may be useful to predict preoperatively tumor aggressiveness and lymph node metastasis.

RECOMMENDATIONS

- Prospective randomized trials have yet assessed the efficacy of sentinel lymph node (SLN) mapping procedures in endometrial cancer, and detection of long-term survival data.
- Recruitment of patients with high grade disease and non-endometrioid endometrial cancers into trials investigating the role of sentinel node surgery in clinical management pathways
- Molecular markers may be useful to predict preoperatively tumor aggressiveness and lymph node metastasis.
- Histopathologic tumor type and grade in endometrial biopsy is required. Pre-operative mandatory work-up. Thoracic, abdominal, and pelvic CT

scan, MRI, ultrasound should be considered to assess ovarian, nodal, peritoneal, and other sites of metastatic disease.

CONFLICT OF INTEREST

No conflict of interest was declared by the authors.

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دور إستئصال العقد اللمفاوية المنهجي الروتيني في إدارة معالجة سرطان بطانة الرحم: دراسة أترابية بأثر رجعي

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خلفيه البحث: سرطان بطانة الرحم هو خامس أكثر أنواع السرطان شيوعا بين النساء في جميع أنحاء العالم. غالبا ما يكون استئصال العقد اللمفاوية المنهجي الروتيني للغدد الليمفاوية الحوضية جزءا من التدريج الجراحي. ولا يتم هذا الإجراء عالميا. والآثار العلاجية لاستئصال العقد اللمفاوية هي قضية نقاش كبيرو يمكن أن تؤثر مضاعفات استئصال العقد اللمفاوية بما في ذلك الورم اللمفاوي والأكياس اللمفاوية على نوعية جودة حياة المرضى.

الهدف من البحث: تقييم الاستخدام الروتيني لاستئصال العقد اللمفاوية المنهجي في الإدارة السريرية لجميع حالات سرطان بطانة الرحم.

المريضات والأساليب: أجريت دراسة استعادية وصفية بأثر رجعي في ثلاثة معاهد وطنية متعددة المراكز للسرطان (طرابلس ومصراتة وصبراتة) تقع في غرب وشمال ليبيا، في الفترة من يناير 2020 إلى مايو 2022. في الدراسة ،و قد تم تسجيل ما مجموعه 180حالة تم علاجهم من سرطان بطانة الرحم. وكان مقياس النتيجة الأولية هو معدل نقائل العقد الليمفاوية فيما يتعلق بالورم (حجم وعمق غزو بطانة الرحم والدرجة والنتائج النسيجية المرضية والانتشار في الفراغ اللمفاوي الوعائي) وخصائص المرضى (العمر- وحالة الحيض-عدد

الأولاد- والأمراض المشتركة بما في ذلك السمنة). وتم تقسيم المرضى إلى مجموعتين: أقل من ستين عاما وما فوق الستين، وحالة الطمث فترة ما قبل انقطاع الطمث وبعد انقطاع الطمث، و وجود أولاد أو عدم وجود أولاد، و مؤشر كتلة الجسم السمنة (BMI) أقل من 25 وفوق 25، ووجود أو عدم وجود أمراض مصاحبة.

نتائج البحث: لم يكن هناك ارتباط كبير بين انتقال ورم سرطان الرحم الي العقد الليمفاوية وخصائص المرضى. و كانت هناك ارتباطات كبيرة مع جميع عوامل الورم باستثناء حجم الورم حيث كان مستوى الأهمية أقل من 05.0. بالنسبة لتصنيف سرطان الرحم بتصنيف (FIGO)، مثلت تصنيف المرحلة الأولى ما يقرب من 60 % من العينة (59.44%)، والمرحلة الثانية 18.9%، والمرحلة الثالثة 18.3%، والمرحلة الرابعة (3.3%). كان لدى المرضى ذوي المخاطرالمنخفضة (تصنيف FIGO المرحلة الأولى I، الدرجة 1-2) وقد انتشر المرض السرطاني للغدد الليمفاوية في 6.5% فقط من الحالات، في المخاطر المتوسطة (FIGO II) المرحلة الثانية، في وجود أي درجة وكان غزو العقد الليمفاوية بنسبة 17.65%، والمخاطر العالية (FIGOIII, FIGO IV) 84.84.%، و 100% على التوالي. و كان معدل الإصابة الإجمالي بالانتقال للعقد الليمفاوية في سرطان بطانة الرحم يزداد بشكل متناسب مع الزيادة في الدرجات. (حوالي 9% في الدرجة1،19% في الدرجة2، و76% في الدرجة 3). في حالات غزو سرطان بطانة الرحم لسماكة عضلة الرحم انتقل الورم الخبيث للعقد الليمفاوية في 11% من الحالات مع أقل من 50% غزو سرطان بطانة الرحم لعضلة الرحم، مقارنة بحوالي 38% من المرضى الذين يعانون من أكثر من 50% من الغزو العضلي للرحم. النتائج النسيجية المرضية و كان الانتقال للغدد الليمفاوية الاكثر مع الأورام المتباينة بشكل سيئ (64%)، وحدث أقلها مع سرطان بطانة الرحم (23%)(endometrioid). قد أثر الانتشار في الفراغ اللمفاوي الوعائي بشكل كبير على انتقال السرطان للعقد الليمفاوية، وحدث في 15.2% من المجموعة منخفضة الخطورة (FIGO المرحلة الأولى) وكانت الأعلى (100%) في المجموعة عالية الخطورة (FIGO IV).

الاســتنتاج: يجــب اســتبدال استئصــال العقــد اللمفاويــة المنهجــي الروتينــي بطــرق أخــرى أكثــر دقــة وأقــل عدوانيــة مفيــدة للتنبــوء والكشــف عــن انتشــار الــورم الخبيــث فــي العقــد الليمفاويــة مثــل اســتخدام الأقســام المجمــدة والغــدد الليمفاويــة الخــافرة، لرســم خــرائط الغــدد الليمفاويــة الخــافرة أثنــاء العمليــات الجراحيــة. والعلامــات الجزيئيــة والتصــوير المقطعــي المحوســب (CT) وصــور الــرنين المغناطيســي (MRI)، والمســح بالموجــات فــوق الصــوتية (USS) مفيــدا للتنبــؤ بعدوانيــة الــورم قبــل الجراحــة. يجــب النظــر فــي هــذه التحقيقــات لتقيــيم انتشــار الســرطان للمبــيض والعقــدي والبروتــوني وغيرهــا مــن مواقــع المــرض النقيليــالتي تــؤثر فــي خطــة العــلاج مــا بعــد الجراحــة (استخدام العلاج الكيماوي والاشعاعي).

التوصيات:

- اســتخدام التجــارب المنضــبطة المعشــاه لتحديــد أهميــة إجــراء رســم خــرائط العقــدة الليمفاويــة الخــافرة فــي ســرطان بطانــة الــرحم، واســتخدامها الكشــف عــن بيانــات البقاء على قيد الحياة على المدى الطويل.

- قــد تكــون العلامــات الجزيئيــة مفيــدة للتنبــؤ بعدوانيــة الــورم قبــل الجراحــة وتســاعد في تحديد انتشار الورم الخبيث في العقدة الليمفاوية.

- يجــب تحديــد نــوع الــورم النســيجي المرضــي والدرجــة عــن طريــق خزعــة بطانــة الرحم كإجراء روتيني قبل الجراحة.

- يجــب النظــر فــي التصــوير المقطعــي المحوســب للصــدر والــبطن والحــوض والتصــوير بــالرنين المغناطيســي والموجــات فــوق الصــوتية لتقيــيم المبــيض والعقدي والبروتوني ومواقع أخرى من الأمراض النقيلية.

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