Original Article

Outcome of Radical Hysterectomy with Nodal Dissection in Endometrial Tumors

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Abstract

Objective: To find out the effect of lymph node dissection in early stage endometrial cancer on the overall survival and morbidity and to study effect of lymph node dissection on the post-operative adjuvant therapy.

Methodology: This was a retrospective analysis of data from the gynecological oncology registries collected at Gynaecology department, PIMS Hospital, Islamabad, from January 2022 to December 2022. Data was collected from the gynecological oncology registries collected at Gynaecology department, PIMS Hospital, Islamabad, over a span of 1 year from January 2022 to December, 2022. A total of 48 patients presented with endometrial cancer, of them 22 were early stage and 6 patients were selected and undergone radical hysterectomy along with pelvic lymph node dissection (LND). Every procedure was carried out by a team of senior consultants in liaison with the surgery department. Administrative permission to retrieve data was taken from the head of department. Ethical permission was taken from patients/guardians at the time of surgical procedure.

Results: The patient age ranged from 40 to 60 years and had no associated co-morbidities. Females belong mostly to the younger age groups and regain a good quality of life easily postoperatively. Of the total, 6 (12.5%) had undergone LND. There were 3 (6.2%) patients had positive nodes and required adjuvant treatments. There were 2 (4.1%) patients who had negative nodes while 1 (2.0%) had reactive nodes but they were negative for malignancy. Out of total 48 cases, 14 (29.1%) patients had wound infection as an immediate complication while of the 6 patients undergone additional LND, 1 (16.6%) had wound infection.

Conclusion: Radical hysterectomy with pelvic lymph node dissection for early stage endometrial cancer has a better patient outcome.

Keywords: Endometrial tumors, lymph node dissection, survival, complications

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Introduction

Endometrial cancers is one of the leading gynecological malignancies in the developed as well as developing countries with more frequent in the later.[1] Globally, endometrial cancers are the sixth leading cause of gynecological malignancies and its incidence is on the sharp rise.[2,3] Early diagnosis and staging provides a better chance of surgical or conservative management of these patients as well as survival. Through proper laboratory and imaging workup, if the tumor is found limited to the endometrial region, surgery is done along with lymph nodal dissection. However, there is controversy regarding nodal dissection due to the risk of metastatic condition.

Data suggests that less than 10% of endometrial lymph nodes are metastatic,[4] thus, provides a window of opportunity for the surgeons of operate the majority (>90%) of these cases with ease and confidence. However, lymph node dissection may increase the risk of intraoperative complications such like lower extremity edema, deep vein thrombosis and overall management duration and hospital stay.[5]

Pakistan being a developing nation has many health and related social and economic issues.[6] The patients

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present late and due to over-burdened healthcare settings and its workers proper and timely investigation is also missed. The progression of any cancer including endometrial tumors may lead to longtime burden on the patient, family, healthcare settings and workers alike.[7] This leads to not only physical but also psychological issues of endurance.

The early screening and removal of endometrial tumors provides a chance of less suffering for the patient, family and healthcare workers, thus, has significant programmatic implications.[8] This study has been planned to measure the effect of lymph node dissection in early stage endometrial cancer patients in terms of their overall survival and morbidity pattern as well as to study the effect of lymph node dissection on the post-operative adjuvant therapy.

Methodology

This was a retrospective analysis of data from the gynecological oncology registries collected at Gynaecology department, PIMS Hospital, Islamabad from January 2022 to December, 2022. The medical files of those patients who had complete record were selected and study information retrieved.

The eligibility criteria included very low risk patients for metastatic lymph nodes, including: (1) Before operation diagnosis of endometrial cancer (pathological diagnosis), (2) tumors limited to uterine cavity only, (3) Negative report of imaging like MRI examination regarding metastatic lymph nodes. The permission for usage of the patient data was taken from the departmental head in the hospital. Patients underwent MRI scan (Siemens Healthcare Department in Erlangen, Germany) before the radical hysterectomy surgery. The findings of the PET/MRI were interpreted by a radiologist who decided the extent and tumor size, and lymph node metastasis. The patients with any suspected lymphadenopathy were excluded.

A total of 48 patients presented with endometrial cancer during the study period. Out of them early stage cases, 6 patients were selected and undergone radical hysterectomy along with pelvic lymph node dissection. These patients were between the ages of 40 to 60 years and had no associated co-morbidities. Every procedure was carried out by a team of senior consultants in liaison with the surgery department. The surgical specimens were evaluated by a histopathologist who specialized in gynecological pathology, and were blinded to the patient's results.

Data was entered and analyzed in SPSS 22.0. The categorical variables like disease stage, nodal findings, need of adjuvant therapy and postoperative complications were measured as frequency, and percentages. The continuous numerical variables like age were measured as mean and standard deviation.

Results

A total of 48 patients presented with endometrial cancer. The mean age of patients was 49.5 ± 6.2 years ranging from 40 to 60 years. Out of the total, 22 (45.8%) were early stage tumors while remaining 26 (53.2%) were late stage. All the early stage cases were free of any co-morbidity. (Table I)

Table I: Demographic and clinical characteristics. (n=48)

	No. of cases	%
Age (years)		
Mean ± SD	49.5 ± 6.2	
Range (min – max)	40 – 60	
Stage of tumors		
Early stage	22	46.8%
Late stage	26	53.2%
Comorbidity		
Early stage tumors	0	0.0%
Late stage tumors	9	18.7%

Of the early cases, 6 (12.5%) patients were selected and had undergone radical hysterectomy along with pelvic lymph node dissection. Overall females undergoing hysterectomy belonged to the younger age group and regained a good quality of life easily postoperatively.

There were 3 (6.2%) patients with positive nodes and required adjuvant therapy. Of these, 2 (4.1%) patients had negative nodes while 1 (2.0%) patient had reactive nodes but they were negative for any malignancy. Overall out of total 48 cases, 14 (29.1%) of patients had wound infection as an immediate complication. While of the six patients undergone additional LND, 1 (16.6%) had wound infection. (Table II)

Discussion

This study highlights that outcome after hysterectomy along with lymph node dissection (LND) in endometrial tumor cases has benefits in terms of survival and less morbidity. However, in few cases since the tumor size was bigger adjuvant therapy was required in these patients. In terms of immediate complications like wound infection, the patients undergoing radical hysterectomy along with nodal resection tend to improve in condition better than patients in which lymph node dissection was not done.

Table II: Outcome of patients post-operatively. (n=48)		
	No. of cases	**%**
Management		
Radical hysterectomy	42	87.5%
Radical hysterectomy + LND	6	12.5%
Nodes		
Positive	3	6.2%
Negative	2	4.1%
Reactive	1	2.0%
Adjuvant therapy		
Yes	3	6.2%
No	3	6.2%
Wound infection complication		
Radical hysterectomy + LND	1	2.0%
Radical hysterectomy	14	29.1%
Survival status (2 years)		
Yes	48	100.0%
No	0	0.0%

Though only 6 patients were applied lymph node dissection in this study, it can be said that LND is highly effective procedure for overall survival, postoperative complications and reduced need for adjuvant therapy. Many other investigators have also witnessed similar findings regarding survival after LND. A study from Japan witnessed that there is better survival after LND in women with endometrial cancers.[9] Another study by Venigalla and colleagues showed that pelvic lymphadenectomy is better than no lymphadenectomy in terms of overall survival rates. Moreover, compared to patients without lymphadenectomy, the ones with pelvic and para-aortic lymphadenectomy were also found significantly better achieving overall survival then those having pelvic lymphadenectomy alone but high-risk histology (serous, clear cell, carcinosarcoma).[10] Another trial by Papathemelis and colleagues also noticed better survival with a systematic pelvic and para-aortic lymphadenectomy compared with elective lymphadenectomy or no lymphadenectomy in high-grade endometrial cancer patients.[11,12] Though the above evidence suggests a beneficial effect of LND in overall survival and morbidity pattern, there is plenty of evidence in contrast too. Few of the investigators have witnessed no effect of LND in various endometrial conditions including tumors. In this connection, the study by May K and colleagues concluded that there is no evidence suggesting decrease in deaths and recurrence rates after lymphadenectomy compared to no lymphadenectomy in endometrial disease of stage I.[13] Another trial by Polcher et al reported that the usage of LND is over use and overtreatment for the patients and has no additional benefit in terms of survival or morbidity in endometrial tumor patients.[14] These findings open a window for continued discussion regarding application of LND, however, since the current study has witnessed high value of the effect of the procedure, it can be safely opted in the local population. Nevertheless, the study must be replicated in other settings with large sample of patients so that the findings of this trial may be properly validated.

There is debate regarding limited and extensive node removal in terms of pelvic alone and para-aortic lymphadenectomy. A study from Korea by Chan JK and colleagues revealed significant association between the number of nodes removed (up to 10, 11-20 and >20) and overall survival for more than 5 years (81.5%, 85.3%, and 86.8% respectively).[15] Another trial from US also witnessed similar findings, the investigators reported that in stage I endometrioid endometrial cancer patients in the national cancer database showed that lymphadenectomy was significantly better than no lymphadenectomy in terms of overall survival (5-years, 91.4% vs. 87.3%; p<0.003).[16] The Japanese SEPAL trial also noted that besides LND the number of nodes also proved better survival in endometrial cancer patients.[9] These above mentioned variable findings suggest that to achieve the beneficial effects of LND certain pre-operative diagnostic criteria and clinical scoring systems must be utilized. Since endometrial tumors are one of leading cause of morbidity and mortality in the local settings,[17,18] the evidence regarding various interventions need to be continuously highlighted.

The current study findings have many programmatic implications. Pakistan being a lower middle income country has limited resources and thus, budgetary allocation for health. Gynecological conditions such like tumors and malignancies are the most frequently observed women condition needing proper diagnoses and treatment. If low risk malignancies and tumors can be removed along with the lymph nodes from the pelvic region, this may reduce the risk of recurrence and repeated presentation to the healthcare setting. In the short term basis it has benefits in terms of survival and complications while in the long run it reduces burden on the departments and healthcare workers.

The current study has many advantages, firstly; a significant public health issue of endometrial cancer has been studied. Secondly, the use of lymph node dissection along with radical hysterectomy has been studied which is not very common in the local settings. There are some limitations of the study as well, the retrospective design has its built in biases and missing data. Moreover, the number of patients on whom LND

was applied during the studied period was not adequate. Similarly, the survival period of study patient was also 1 to 2 years and no long term outcome could be judged due to shorter study period.

In brief keeping in mind the importance of topic, it can be confidently argued that lymph node dissection has significant role in the survival and morbidity pattern of women with endometrial tumors.

Conclusion

This study found that radical hysterectomy with pelvic lymph node dissection for early stage endometrial cancer has a better patient outcome. The overall survival and morbidity was better in cases undergoing LND. Since the sample was small on which the intervention was done, further large scale prospective trials using rigorous scientific methods are mandatory before generalization of the current study findings.

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