

## Original Research

### A hospital based study to investigate various Prognostic factors implicated in endometrial cancer patients

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#### ABSTRACT:

**Background:** The most common malignancy of the female genital tract in industrialized countries is endometrial carcinoma. The present study was planned to assess different prognostic factors implicated in endometrial cancer patients. **Materials & methods:** The present study included assessment of different prognostic factors implicated in endometrial cancer patients. Data records of all the patients with confirmed diagnosis of endometrial carcinoma admitted to the department of gynecology were screened. All the results were compiled in Microsoft excel sheet and were analysed by SPSS software. **Results:** In the present study, data records of a total of 100 patients with endometrial carcinoma were analysed. 73 percent of the patients were more than 50 years of age, while 27 percent of the patients were less than 50 years of age. 61 percent of the patients were in post-menopausal state while 39 percent of the patients were in pre-menopausal state. Nulliparous parity was seen in 46 percent of the patients while Parous parity was seen in 54 percent of the patients. Significance results obtained while comparing the distribution of patients divided on the basis of age and menopausal state. Majority of the patients (60 percent patients) belonged to stage I of surgical staging. Lymph node metastasis was present in 23 percent of the patients while it was absent in 79 percent of the patients. **Conclusion:** It is important for segregating the risk factors of endometrial carcinoma for improving the prognosis of the patients

**Key words:** Cancer, Endometrial, Prognostic.

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#### INTRODUCTION

Endometrial carcinoma is the most common malignancy of the female genital tract in industrialized countries, and occurs predominantly after the menopause. Although most endometrial carcinomas are detected at low stage, there is still a significant mortality from the disease. In postmenopausal women, prolonged life expectancy, changes in reproductive behavior and prevalence of overweight and obesity, as well as hormone replacement therapy use, may partially account for the observed increases of incidence rates in some countries. In order to improve treatment and follow-up of endometrial carcinoma patients, the importance of various prognostic factors has been extensively studied. The identification of high-risk groups would make it possible to avoid unnecessary adjuvant

treatment among patients with a good prognosis.

<sup>1</sup>Unfortunately, no consensus exists on which predictive or prognostic factors that should be used and how to combine them in the definition of suitable-risk groups. Three prospective randomized trials of low-risk, medium-risk, and high-risk cancers have been performed in Sweden and some other European countries. Vaginal brachytherapy, external beam pelvic radiation, and adjuvant chemotherapy were addressed in these studies.<sup>4-6</sup> Hence; the present study was planned to assess different prognostic factors implicated in endometrial cancer patients.

#### MATERIALS & METHODS

The present study was conducted in the department of gynaecology and obstetrics & General surgery department to assess different prognostic factors

implicated in endometrial cancer patients. Data records of all the patients with confirmed diagnosis of endometrial carcinoma admitted to the department of gynecology were screened. Inclusion criteria for the present study included:

- Patients with histopathologic confirmed diagnosis of endometrial carcinoma
- Patients in which follow-up records were present,
- Patients with negative history of presence of any other systemic illness

All the results were compiled in Microsoft excel sheet and were analysed by SPSS software.

## RESULTS

In the present study, data records of a total of 100 patients with endometrial carcinoma were analysed.

73 percent of the patients were more than 50 years of age, while 27 percent of the patients were less than 50 years of age. 61 percent of the patients were in post-menopausal state while 39 percent of the patients were in pre-menopausal state. Nulliparous parity was seen in 46 percent of the patients while Parous parity was seen in 54 percent of the patients. Significance results obtained while comparing the distribution of patients divided on the basis of age and menopausal state. Majority of the patients (60 percent patients) belonged to stage I of surgical staging. Lymph node metastasis was present in 23 percent of the patients while it was absent in 79 percent of the patients. Significant results were obtained while distributing the patients divided on the basis of histopathology type, peritoneal cytology and lymph node metastasis

**Table 1: Demographic and clinical features as prognostic factors**

Parameter		Number of patients	p- value
Age	Less than 50 years	27	0.01
	More than 50 years	73	
Menopause	Pre-menopause	39	0.02
	Post-menopause	61	
Parity	Nulliparous	46	0.65
	Parous	54	

**Table 2: Surgical stage**

Parameter		Number of patients	p- value
Surgical stage	Stage I	60	0.01
	Stage II	30	
	Stage III	6	
	Stage IV	4	

**Table 3: Malignant features as prognostic factors**

Parameter		Number of patients	p- value
Histopathology type	Endometrial adenocarcinoma (EA)	61	0.03
	EA with squamous adenocarcinoma	20	
	Papillary serous carcinoma	10	
	Squamous carcinoma	9	
Peritoneal cytology	Positive	32	0.02
	Negative	68	
Lymph node metastasis	Present	21	0.00
	Absent	79	

## DISCUSSION

Endometrial cancer is the fourth most common cancer in women with an estimated 46,470 new diagnoses and over 8000 deaths in 2011. Incidence of endometrial cancer is on the rise with a lifetime risk of approximately 3%. Most strikingly, 5-year survival is currently significantly worse than 30 years ago (84% survival in 2006 vs. 88% survival in 1975), making endometrial cancer only one of two cancers with increased mortality.

In the present study, 73 percent of the patients were more than 50 years of age, while 27 percent of the

patients were less than 50 years of age. Overall, older women have a worse prognosis and a lower 5-year survival than younger women. It is important to evaluate whether this difference is purely based on age or other poor prognostic features associated with age. In a study involving data from 15,471 endometrial cancer patients in the SEER database, Lee *et al.* showed that women older than 40 years were less likely to have stage I disease and grade I tumors but more likely to have uterine papillary serous histology than women aged 40 years and younger. Furthermore, women older than 40 years had

a survival disadvantage and significantly lower 5-year survival when stratifying by age and adjusting for histology and adjuvant therapy.<sup>7-9</sup>

In the present study, Lymph node metastasis was present in 21 percent of the patients while it was absent in 79 percent of the patients. Significant results were obtained while distributing the patients divided on the basis of histopathology type, peritoneal cytology and lymph node metastasis. Fukuda K et al assessed the significance of malignant or suspicious cervical cytology in preoperative identification of poor prognostic factors in endometrial carcinoma and to determine whether preoperative abnormal cervical cytology is an independent prognostic factor for endometrial carcinoma. They evaluated the correlation between preoperative cervical cytology and postoperative clinicopathologic findings, sites of metastasis, and receptor status from 99 surgically staged patients with endometrial carcinoma. Sixty-eight patients (68.7%) had normal cervical cytology, 1 (1.0%) had atypical cytology suspicious for malignancy, and 30 (30.3%) had malignant cytology on preoperative cervical cytology. Malignant and suspicious cervical smears were statistically correlated with surgical stage ( $P = 0.001$ ), histopathology ( $P = 0.010$ ), tumor grade ( $P = 0.012$ ), depth of myometrial tumor invasion ( $P = 0.001$ ), cervical involvement ( $P = 0.01$ ), lymph node metastases ( $P = 0.002$ ), adnexal metastases ( $P = 0.012$ ), progesterone receptor ( $P = 0.007$ ), and estrogen receptor ( $P = 0.031$ ). No association was found between preoperative cervical cytology and patients' age or peritoneal cytology. Univariate analysis showed that cervical cytology was related to survival ( $P = 0.018$ ). However, multivariate analysis of cervical cytology, stage, grade, and myometrial invasion showed that preoperative cervical cytology was not a significant prognosticator for survival. Patients with endometrial carcinoma who have malignant or suspicious cytology detected by preoperative cervical cytology are at increased risk of having known poor prognostic factors.<sup>10</sup>

Amant F et al investigated whether uterine carcinosarcomas can be included in protocols on high-risk endometrial cancer, given the similarities in biologic behavior of both entities. Although endometrial carcinosarcoma originates from epithelial cancer, the intrinsic more aggressive tumor biology suggested that this subtype should not be incorporated in studies on high-risk epithelial endometrial cancer.<sup>11</sup> Giordano G et al analyzed clinical data and pathological features of six cases of malignant endometrial polyps, to compare these with other examples reported in literature and to define the features of endometrial cancer arising in polyps. Moreover, to clarify the mechanisms of carcinogenesis in malignant endometrial polyps we examined the expression of cyclooxygenase-2 (COX-2), P53 and Ki 67 and their relationships with clinicopathologic characteristics. Clinical records,

histological slides of endometrial curetting, hysterectomy with salpingo-oophorectomy specimens and pelvic lymph nodes were reviewed in each case. The main pathological features analyzed were histological types of endometrial cancer and the stage of development of neoplasm. The presence of other malignancies in the genital tract were also considered. Immunohistochemical staining was done using antibodies COX-2, p53 and Ki 67. All malignant endometrial polyps had been detected in postmenopausal women. The majority of our patients with malignant endometrial polyps had risk factors for the development of endometrial carcinoma such as hypertension, obesity and unopposed estrogen therapy. Postmenopausal status, hypertension, obesity could all be considered as risk factors for carcinomatous transformation within endometrial polyps in women without a history of breast carcinoma and Tamoxifen treatment.<sup>12</sup>

Güngördük K et al conducted a study on total of 224 patients with low-risk EC without recurrence were selected (control group) using a dependent random sampling method. The case and control groups were match-paired in terms of grade, stage, and operative technique. Results: Lymphovascular space invasion (LVSI) (odds ratio (OR) 5.8, 95% confidence interval (CI) 2.0-16.9;  $p = 0.001$ ) and primary tumor diameter (PTD)  $\geq 20$  mm (OR 6.6, 95% CI 2.7-15.8;  $p < 0.001$ ) were found to be independent risk factors for recurrence in women with low-risk EC. They concluded that The presence of LVSI and PTD  $\geq 20$  mm seem to be significant risk factors for recurrence in women with low-risk EC.<sup>13</sup>

## CONCLUSION

Under the light of above obtained data, the authors conclude that it is important for segregating the risk factors of endometrial carcinoma for improving the prognosis of the patients. However; further studies are recommended.

## REFERENCES

1. J. Aalders, V. Abeler, P. Kolstad, and M. Onsrud, "Postoperative external irradiation and prognostic parameters in stage I endometrial carcinoma. Clinical and histopathologic study of 540 patients," *Obstetrics and Gynecology*, vol. 56, no. 4, pp. 419-427, 1980.
2. C. L. Creutzberg, W. L. J. Van Putten, P. C. M. Koper et al., "Surgery and postoperative radiotherapy versus surgery alone for patients with stage-1 endometrial carcinoma: multicentre randomised trial," *The Lancet*, vol. 355, no. 9213, pp. 1404-1411, 2000.
3. Coleman MP, Esteve, J, Damiecki, P ,et al. Cancer Incidence and Mortality. IARC Sci.Publ. Lyon, France: International Agency for Research on Cancer. 1993: 1-806.
4. T. Högberg, M. Signorelli, C. F. de Oliveira et al., "Sequential adjuvant chemotherapy and radiotherapy in endometrial cancer—results from two randomized studies," *European Journal of Cancer*, vol. 36, no. 2, pp. 371-378, 2010.

5. B. Sorbe, B. Nordström, J. Mäenpää et al., "Intravaginal brachytherapy in FIGO stage I low-risk endometrial cancer: a controlled randomized study," *International Journal of Gynecological Cancer*, vol. 19, no. 5, pp. 873–878, 2009.
6. B. Sorbe, G. Horvath, H. Andersson, K. Boman, C. Lundgren, and B. Pettersson, "External pelvic and vaginal irradiation versus vaginal irradiation alone as postoperative therapy in medium-risk endometrial carcinoma—a prospective randomized study," *International Journal of Radiation Oncology, Biology, Physics*, vol. 82, no. 3, pp. 1249–1255, 2012.
7. Ueda, SM, Kapp, DS, Cheung, MK Trends in demographic and clinical characteristics in women diagnosed with corpus cancer and their potential impact on the increasing number of deaths . *Am. J. Obstet. Gynecol.* 198 ( 2 ), 218.e1 – 218.e6 ( 2008 ).
8. Lee, NK, Cheung, MK, Shin, JY, Husain, A, Teng, NN, Berek, JS Prognostic factors for uterine cancer in reproductive-aged women . *Obstet. Gynecol.* 109 , 655 – 662 ( 2007 ).
9. Keys, HM, Roberts, JA, Brunetto, VL A Phase III trial of surgery with or without adjunctive external pelvic radiation therapy in intermediate risk endometrial adenocarcinoma: a Gynecologic Oncology Group study . *Gynecol. Oncol.* 92 ( 3 ), 744 – 751 ( 2004 ).
10. Fukuda K1, Mori M, Uchiyama M, Iwai K, Iwasaka T, Sugimori H, Yamasaki F. Preoperative cervical cytology in endometrial carcinoma and its clinicopathologic relevance. *GynecolOncol.* 1999 Mar;72(3):273-7.
11. Amant F1, Cadron I, Fuso L, Berteloot P, de Jonge E, Jacomen G, Van Robaeys J, Neven P, Moerman P, Vergote I. Endometrial carcinosarcomas have a different prognosis and pattern of spread compared to high-risk epithelial endometrial cancer. *GynecolOncol.* 2005 Aug;98(2):274-80.
12. Giordano G1, Gnetti L, Merisio C, Melpignano M. Postmenopausal status, hypertension and obesity as risk factors for malignant transformation in endometrial polyps. *Maturitas.* 2007 Feb 20;56(2):190-7. Epub 2006 Sep 11.
13. Güngördük K et al. Risk Factors for Recurrence in Low-Risk Endometrial Cancer: A Case-Control Study *Oncol Res . Treat* 2018;41:466-470