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Review Article

Endometrial Cancer; Clinical Aspects and Prognosis

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Abstract

In developed countries, endometrial cancer is common and is the second most common cancer in women; the lifetime risk of developing endometrial cancer is 2.6% and the average age at diagnosis is 61 years; 68% are diagnosed at an early stage; It manifests with abnormal uterine bleeding, especially in postmenopausal women; Risk factors are related to the effects of estrogen; reducing the risk with oral contraceptives, there are no screening tests; The treatment is surgical and minimally invasive surgery improves morbidity and mortality.

Keywords: Epidemiology; Symptoms; Risk Factors; Prognostic Indicators; Types of Endometrial Cancer

Epidemiology

Worldwide 288,000 women are diagnosed with cervical cancer [1,2], it is the most common gynecologic cancer in developed countries, with an incidence of 5.9 to 12.9 per 100,000 women and mortality rate [3] of 2.4 per 100,000. The mortality rate was 1.7 to 2.4 per 100,000 women; United States (US), is the most common gynecologic cancer; with 50,000 new cases and 8,600 deaths each year [1,2]; with incidence of 23.9 per 100,000 women [4-7], is presented at a mean age at diagnosis of 61 years and age is (20-34yrs); 1.5%, (35-44yrs); 6% (45-54yrs); 19% of (55-64yrs); 32.6% of (65-74yrs); 22.6%; (75 to 84yrs); 13.5% 85 years of age or older; 4.8%; from the (50-70 yrs) women have a 1.4% risk of being diagnosed with uterine cancer and risk for life in US is 2.6%; 68% are diagnosed at an early stage, the uterus located [8,9]; advanced stage with spread to regional lymph nodes and organs (20%); and distant metastases (8%). Survival rates for localized [5], and loco regional and metastatic spread are 96 %, 67%, and 17%, respectively [8,9].

Classification

Based on clinical features, pathological features, molecular genetics, incidence, response to estrogen and prognosis, the endometrial cancer could be classified as the following; there are two types of endometrial cancer [8-10]:

- Type I endometrial cancer include endometrioide grade 1 or 2; they comprise 80%; have favorable prognosis, they are estrogen-dependent and are preceded by endometrial intraepithelial neoplasia (complex atypical endometrial hyperplasia).
- Type II endometrial cancer represent 10 to 20%; They are grade 3 endometrioide or not endometrioide histopathology; clear, serous, mucinous, squamous, transitional, and mesonephric cell undifferentiated cells; They are high grade, poor prognosis without association to estrogen stimulation without precursor lesion.

Women with endometrial cancer are obese associated with chronic diseases and have higher surgical risk; robotic surgery compared with classic and laparoscopic surgery have better prognosis for surgical staging; no differences in rates of recurrence and death, but with better postoperative quality of life. The survival rate is 86% for classical radical surgery and 90% for laparoscopic and robotic surgery in patients of the same age, body mass index, associated chronic diseases, number of previous surgeries. Classical surgery has more complications compared with robotic surgery (26 vs 6.4%, p <0.001) [11].

Clinical Presentation

Abnormal uterine bleeding is the main symptom of endometrial cancer 65-90%, occasionally detected in cervical cytology screening [1-3,12]. It is most common in postmenopausal women. The suspected presence of endometrial neoplasia (endometrial hyperplasia or carcinoma neoplastic) depends on the symptoms, age and presence of risk factors [1-3,12]. The amount of bleeding is not correlated with the risk of cancer.

Risk Factors

The main risk factor for type I endometrial cancer is prolonged exposure to excessive endogenous or exogenous estrogen without progestin right opposition [8]. Other risk factors include obesity, nulliparity, diabetes mellitus and hypertension, see Table 1; exogenous estrogen exposure includes estrogen replacement therapy after menopause and tamoxifen, whereas the endogenous exposure results from obesity, chronic anovulation, and estrogen-secreting tumors [8].

Estrogen therapy alone in women with a uterus increases the risk of endometrial hyperplasia or cancer. Endometrial hyperplasia is identified in 20-50% of women after a year with estrogen therapy alone [13-15]; and the relative risk is 1.1 to 15% for endometrial cancer [8,9]; therapy with estrogen and progestin reduces the risk [8,9]. Tamoxifen use increases the risk of endometrial cancer in postmenopausal women [16,17]. Tamoxifen is a selective estrogen receptor modulator with both agonist and antagonist properties, depending on individual target organ and circulating serum estrogen levels [8,9]. In breast tissue, is blocks estrogen stimulation and is used for prevention and treatment.

Tamoxifen endometrial activity seems to depend on menopausal

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Table 1: Endometrial cancer classification.

TYPE I	TYPE II	TYPE III (Family)
Under differentiated or degree <Depth of invasion It develops HE Perimenopausal Estrogen dependent Reproductive age Obese	High-grade or undifferentiated > Depth of invasion Papillary serous cells or clear endometrial atrophy lower weight	Lynch syndrome II HNPCC

HNPCC: Hereditary Nonpolyposis Colorectal Cancer

status, dose and duration [8,9]. In general, the risk increased with increasing tamoxifen (rate ratio 2.40) [8,9].

The effect of phytoestrogens on the risk of endometrial carcinoma is controversial [18-21]. Phytoestrogens are nonsteroidal compounds that occur naturally in many plants, fruits and vegetables and have both estrogenic and anti estrogen properties [8,9].

Excess endogenous estrogen is chronic anovulation or excessive endogenous conversion of androstenedione to estrone and estradiol by fat cells in obese women [9]. Estrogen-secreting tumors are rare, but can also result in endometrial carcinoma. Anovulation is common during menarche and the menopausal transition. Polycystic ovary syndrome is the most common endocrine disorder associated with anovulation. Thyroid dysfunction and elevated prolactin levels are common endocrine disorders associated with anovulation. Obese women are more likely to develop endometrial cancer; each increase in body mass index (BMI) of 5kg / m2 incurred a significantly higher risk of developing endometrial carcinoma (RR 1.59, 95% CI 1.50 to 1.68) [22]. Body Mass Index (MBI) also higher is associated with the development of endometrial carcinoma at an early age (<45 years) [9]. Unlike other disorders, however, the risk of developing endometrial carcinoma unrelated to the distribution of adipose tissue [8,9,22]. Obese women may also have other endocrine abnormalities. They may have lower circulating levels of sex hormone binding globulin (leading to increased activity of the steroid hormone), alterations in the concentration of factor insulin-like binding proteins and growth, and resistance to insulin, all of which may contribute to the increased risk of endometrial carcinoma in these women [8,9]. Women with severe obesity (≥40 kg / m2) who develop endometrial cancer are more likely than women with a BMI <30kg/m2 for a less aggressive histologic subtype (endometrioide: 87% versus serous or clear cell: 75%) [9]. Severe obesity is also associated with an increased risk of death [23] obese premenopausal women, especially those with PCOS, are often also anovulatory.

The age of early menarche and late menopause are risk factors [8,9]. Both factors result from prolonged estrogen stimulation in reproductive years during which anovulatory cycles are common.

Some producers mainly estrogen ovarian tumors granulosa cells are associated with endometrial neoplasia. Endometrial biopsy endometrial hyperplasia detected in 25 to 50% of women with tumors and carcinoma of [8,9] granulosa cells in 5 to 10%. Endometrial adenocarcinomas are associated with tumors of granulosa cell-stromal are generally early stage and well differentiated [8,9]. Endometrial cancer occurs in postmenopausal women and in lower under 50 years who develop endometrial cancer often have risk factors such as obesity or chronic anovulation [8,9].

The family tendency toward endometrial carcinoma in first grade [24], although there are no genes identified consistently. Women with Lynch (Lynch syndrome) syndrome have an increased risk of developing endometrial cancer and are likely to develop the disease at an early age; also, they run a high risk of colon cancer and ovarian cancer, along with other malignancies. Lynch syndrome is an autosomal dominant disorder that is caused by a germline mutation in one of several DNA repair genes, accounting for 2-5% of all endometrial carcinomas [8,9,25,26], women with this syndrome, have a risk of endometrial cancer of 27-71% compared to 2.6% of the general population and is considered a type 3 of endometrial cancer; It is a genetic or hereditary cancer that has a partnership or is part of Lynch II syndrome, Hereditary Nonpolyposis Colo. Rrectal Cancer (HNPCC); genetic disease is 10% and 5% represents Lynch II syndrome; BRCA1 mutations are associated with endometrial carcinoma; BRCA1 mutation significantly increases the risk of uterine cancer (RR 2.65; 95% CI: 1.69 to 4.16) and higher only for BRCA mutation carriers who take tamoxifen, with increased risk of serous carcinoma endometrium in BRCA carriers [8,9].

Women with Cowden syndrome, an autosomal dominant disorder where there is a mutation in the tumor suppressor gene PTEN, have characteristics mucocutaneous lesions, have a higher prevalence of uterine leiomyomas and endometrial cancer, breast, thyroid, kidney and colorectal. They are rare this rare syndrome; but lifetime risk of endometrial cancer [27-29] 13-19% is reported.

The association between increased consumption of sugars and endometrial cancer are mainly reported in obese; there is no overall association between alcohol consumption and endometrial cancer (RR 1.04, 95% CI 0.91 to 1.18) [8,9].

Associated Factors

The risk of endometrial cancer is not related to parity [8,9]; nulliparity and infertility are not considered independent risk factors; However, the association of women and infertile anovulatory cycles; Women with type 2 diabetes mellitus and hypertension are at increased risk of endometrial carcinoma [30]. Other factors, especially obesity, increased risk represent independent effects [31]; diets rich in carbohydrates, hyper-insulinemia, insulin resistance, and elevated levels of factors insulin-like growth plays a role in the development of endometrial cancer [8,9].

Protective Factors

The use of oral contraceptives reduces the risk of endometrial cancer (> 50%) and persists for 10 to 20 years after stopping [32,33]. Having a first child at late reproductive age, the lower the risk of endometrial cancer [34,35]; smoking reduces the risk by hepatic metabolic clearance of estrogen; sedentary lifestyle contributes to the development of cancer and reduces physical activity; obesity central adiposity, causes immunological, metabolic, functional changes in hormone levels, and growth factors, which favors the development endometrial cancer [36].

The reduced risk of endometrial cancer is proportional to the amount of coffee and tea consumed [37-40]; the use of calcium supplements and aspirin are associated with lower risk of endometrial cancer mainly in obese [41,42].

Prognostic Indicators of Endometrial Cancer

Risk factor for recurrence of endometrial cancer is dividide d in uterine and extra-uterine factors. Uterine factors include histological type, grade, depth of invasion, myometrial, cervical involvement, vascular invasion, presence of atypical endometrial hyperplasia, hormone receptor status and ploidy and S-phase fraction ectopic adnexal factors include commitment, intraperitoneal metastases, positive peritoneal cytology, and metastasis to pelvic and para-aortic lymph nodes. Patients without evidence of extrauterine disease without cervical involvement and no evidence of vascular invasion have a low risk of recurrence generally women with evidence of extrauterine disease, cervical involvement or vascular invasion are a high risk group. If one of these three factors is positive, the recurrence rate is 20% increasing to 43% for two positive factors and 63% for three factors 8.9.

Conclusions

Endometrial cancer is the histopathological diagnosis is performed on the sample of endometrium; no routine screening tests are performed only in those patients with Lynch syndrome, who have lifetime risk of endometrial cancer, 27-71% compared with 3% in the general population. The detection and prevention of endometrial cancer in these women include endometrial sampling and prophylactic hysterectomy.

References

1. Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. CA Cancer J Clin. 2011; 61: 69-90.
2. World cancer research fund international. Cancer facts and figures: Endometrial cancer rates. 2013.
3. Siegel R, Ma J, Zou Z, Jemal A. Cancer statistics, 2014. CA Cancer J Clin. 2014; 64: 9-29.
4. Allard JE, Maxwell GL. Race disparities between black and white women in the incidence, treatment, and prognosis of endometrial cancer. Cancer Control. 2009; 16: 53-56.
5. Smotkin D, Nevadunsky NS, Harris K, Einstein MH, Yu Y, Goldberg GL. Histopathologic differences account for racial disparity in uterine cancer survival. Gynecol Oncol. 2012; 127: 616-619.
6. Elshaikh MA, Munkarah AR, Robbins JR, Laser BS, Bhatt N, Cogan C, et al. The impact of race on outcomes of patients with early stage uterine endometrioid carcinoma. Gynecol Oncol. 2013; 128: 171-174.
7. Vargas Hernández VM, Quijano FC, Jiménez Villanueva X, Escudero de los Ríos PM. Cáncer de endometrio. En Vargas-Hernández VM, editor. Cáncer en la mujer. México: Alfil. 2011; 1007-1038.
8. Cabrini L, Landoni G, Oriani A, Plumari VP, Nobile L, Greco M, et al. Noninvasive ventilation and survival in acute care settings: a comprehensive systematic review and metaanalysis of randomized controlled trials. Crit Care Med. 2015; 43: 880-888.
9. Felix AS, Weissfeld JL, Stone RA, Bowser R, Chivukula M, Edwards RP, et al. Factors associated with Type I and Type II endometrial cancer. Cancer Causes Control. 2010; 21: 1851-1856.
10. Vargas-Hernández VM. [Comparison of robotic surgery documentary in gynecological cancer]. Cir Cir. 2012; 80: 567-572.
11. Chen L-may, Berek JS. Endometrial carcinoma: Clinical features and diagnosis. Literature review current through: May 2015. This topic last updated: Apr 08, 2014.
12. American College of Obstetricians and Gynecologists. ACOG practice bulletin, clinical management guidelines for obstetrician-gynecologists, number 65, August 2005: management of endometrial cancer. Obstet Gynecol. 2005; 106: 413-425.
13. Seebacher V, Schmid M, Polterauer S, Hefler-Frischmuth K, Leipold H, Concin N, et al. The presence of postmenopausal bleeding as prognostic parameter in patients with endometrial cancer: a retrospective multi-center study. BMC Cancer. 2009; 9: 460.
14. Furness S, Roberts H, Marjoribanks J, Lethaby A, Hickey M, Farquhar C. et al. Hormone therapy in postmenopausal women and risk of endometrial hyperplasia. Cochrane Database Syst Rev. 2009; CD000402.
15. Iqbal J, Ginsburg OM, Wijeratne TD, Howell A, Evans G, Sestak I, et al. Endometrial cancer and venous thromboembolism in women under age 50 who take tamoxifen for prevention of breast cancer: a systematic review. Cancer Treat Rev. 2012; 38: 318-328.
16. Early Breast Cancer Trialists' Collaborative Group (EBCTCG), Davies C, Godwin J, et al. Relevance of breast cancer hormone receptors and other factors to the efficacy of adjuvant tamoxifen: patient-level meta-analysis of randomised trials. Lancet. 2011; 378: 771-784.
17. Chin J, Konje JC, Hickey M. Levonorgestrel intrauterine system for endometrial protection in women with breast cancer on adjuvant tamoxifen. Cochrane Database Syst Rev. 2009; CD007245.
18. Bandera EV, Williams MG, Sima C, Bayuga S, Pulick K, Wilcox H, et al. Phytoestrogen consumption and endometrial cancer risk: a population-based case-control study in New Jersey. Cancer Causes Control. 2009; 20: 1117-1127.
19. Ollberding NJ, Lim U, Wilkens LR, Setiawan VW, Shvetsov YB, Henderson BE, et al. Legume, soy, tofu, and isoflavone intake and endometrial cancer risk in postmenopausal women in the multiethnic cohort study. J Natl Cancer Inst. 2012; 104: 67-76.
20. North American Menopause Society. The role of soy isoflavones in menopausal health: report of The North American Menopause Society/Wulf H. Utian Translational Science Symposium in Chicago, IL (October 2010). Menopause. 2011; 18: 732-753.
21. Renehan AG, Tyson M, Egger M, Heller RF, Zwahlen M. Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. Lancet. 2008; 371: 569-578.
22. Fader AN, Arriba LN, Frasure HE, von Gruenigen VE. Endometrial cancer and obesity: epidemiology, biomarkers, prevention and survivorship. Gynecol Oncol. 2009; 114: 121-127.
23. Lucenteforte E, Talamini R, Montella M, Dal Maso L, Pelucchi C, Franceschi S, et al. Family history of cancer and the risk of endometrial cancer. Eur J Cancer Prev. 2009; 18: 95-99.
24. Win AK, Reece JC, Ryan S. Family history and risk of endometrial cancer: a systematic review and meta-analysis. Obstet Gynecol. 2015; 125: 89-98.
25. Kwon JS, Scott JL, Gilks CB, Daniels MS, Sun CC, Lu KH. Testing women with endometrial cancer to detect Lynch syndrome. J Clin Oncol. 2011; 29: 2247-2252.
26. Heald B, Mester J, Rybicki L, Orloff MS, Burke CA, Eng C. Frequent gastrointestinal polyps and colorectal adenocarcinomas in a prospective series of PTEN mutation carriers. Gastroenterology. 2010; 139: 1927-1933.
27. Riegert-Johnson DL, Gleeson FC, Roberts M, Tholen K, Youngborg L, Bullock M, et al. Cancer and Lhermitte-Duclos disease are common in Cowden syndrome patients. Hered Cancer Clin Pract. 2010; 8: 6.
28. Pilarski R, Stephens JA, Noss R, Fisher JL, Prior TW. Predicting PTEN mutations: an evaluation of Cowden syndrome and Bannayan-Riley-Ruvalcaba syndrome clinical features. J Med Genet. 2011; 48: 505-512.
29. Noto H, Osame K, Sasazuki T, Noda M. Substantially increased risk of cancer in patients with diabetes mellitus: a systematic review and meta-analysis of epidemiologic evidence in Japan. J Diabetes Complications. 2010; 24: 345-353.
30. Zhang Y, Liu Z, Yu X, Zhang X, Lü S, Chen X, et al. The association between metabolic abnormality and endometrial cancer: a large case-control study in China. Gynecol Oncol. 2010; 117: 41-46.

31. Liang SX, Pearl M, Liang S, Xiang L, Jia L, Yang B, et al. Personal history of breast cancer as a significant risk factor for endometrial serous carcinoma in women aged 55 years old or younger. Int J Cancer. 2011; 128: 763-770.

32. Mueck AO, Seeger H, Rabe T. Hormonal contraception and risk of endometrial cancer: a systematic review. Endocr Relat Cancer. 2010; 17: R263-271.

33. Soini T, Hurskainen R, Grénman S, Mäenpää J, Paavonen J, Pukkala E. Cancer risk in women using the levonorgestrel-releasing intrauterine system in Finland. Obstet Gynecol. 2014; 124: 292-299.

34. Setiawan VW, Pike MC, Karageorgi S, Deming SL, Anderson K, Bernstein L, et al. Age at last birth in relation to risk of endometrial cancer: pooled analysis in the epidemiology of endometrial cancer consortium. Am J Epidemiol. 2012; 176: 269-278.

35. Moore SC, Gierach GL, Schatzkin A, Matthews CE. Physical activity, sedentary behaviours, and the prevention of endometrial cancer. Br J Cancer. 2010; 103: 933-938.

36. Bravi F, Scotti L, Bosetti C, Gallus S, Negri E, La Vecchia C, et al. Coffee drinking and endometrial cancer risk: a metaanalysis of observational studies. Am J Obstet Gynecol. 2009; 200: 130-135.

37. Yu X, Bao Z, Zou J, Dong J. Coffee consumption and risk of cancers: a meta-analysis of cohort studies. BMC Cancer 2011; 11: 96.

38. Tang NP, Li H, Qiu YL, Zhou GM, Ma J. Tea consumption and risk of endometrial cancer: a metaanalysis. Am J Obstet Gynecol. 2009; 201: 605.

39. Butler LM, Wu AH. Green and black tea in relation to gynecologic cancers. Mol Nutr Food Res. 2011; 55: 931-940.

40. Neill AS, Nagle CM, Protani MM, Obermair A, Spurdle AB, Webb PM. Australian National Endometrial Cancer Study Group . Aspirin, nonsteroidal anti-inflammatory drugs, paracetamol and risk of endometrial cancer: a case-control study, systematic review and meta-analysis. Int J Cancer. 2013; 132: 1146-1155.

41. Yang TO, Crowe F, Cairns BJ, Reeves GK, Beral V. Tea and coffee and risk of endometrial cancer: cohort study and meta-analysis. Am J Clin Nutr. 2015; 101: 570-578.

42. Sun Q, Xu L, Zhou B, Wang Y, Jing Y, Wang B. Alcohol consumption and the risk of endometrial cancer: a meta-analysis. Asia Pac J Clin Nutr. 2011; 20: 125-133.

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