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Profile of endometrial cancer patient at Sanglah Hospital, Denpasar, Bali-Indonesia

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Abstract

BACKGROUND: Endometrial cancer is one type of cancer that is often experienced by women, especially in the post-menopausal female population. The incidence of endometrial cancer in developing countries, including Indonesia, is increasing due to the lack of access to early detection and diagnosis of endometrial cancer that requires curettage or biopsy that must be done in a hospital.

AIM: The purpose of this study was to observe various risk factors and characteristics of endometrial cancer patients such as initial complaints, age, parity, family history, body mass index, history of hypertension, history of diabetes mellitus, histological type, degree of differentiation, cancer stage, and treatment.

METHODS: This retrospective and descriptive study was carried out at the obstetrics and gynecology polyclinic and the medical record installation at Sanglah Hospital Denpasar Bali from November 2020 until May 2021. A total of 215 patients with endometrial cancer were enrolled in this study.

RESULTS: A total of 215 endometrial cancer were obtained during this study period. The most common clinical characteristics were vaginal bleeding (91.4%), age range between 51 and 60 years old (42%), multiparity (58%), body mass index overweight (55.9%), history of hypertension 54.2%, no history of diabetes mellitus DM (71.8%), Stage II disease (42.5%), Type I endometrioid 53.2%, and operative management 98.4%.

CONCLUSION: Our descriptive study concluded that most of patients were found in Stage II disease of endometrial cancer.

Introduction

Cancer is a condition in which normal cells in the human body experience uncontrolled growth and development accompanied by spread to surrounding tissues. Cancer is a pathological cell condition that spreads and invades surrounding tissues [1]. Some types of cancer are often experienced by women, namely, cervical cancer, endometrial cancer, and ovarian cancer. Cancer cell that arise from endometrium is called endometrial cancer [1].

The type of cancer distinguishes the pathogenesis of endometrial cancer. Pathogenic Type 1 endometrial cancer is caused by hyperplasia due to high estrogen/estrogen hyperstimulation over a long period of time. Endometrial tumors with excess estrogen, reaching about 80% of all endometrial cancers. It begins with hyperplasia endometrium (increased cell count), and is relatively well differentiated. In general, endometrial cancer occurs during perimenopause, nulliparity, obesity, diabetes mellitus, and hypertension. Pathogenic Type 2 endometrial cancer is not associated with stimulating the hormone estrogen. Patients are usually thin and multiparous and are usually experienced after (post) menopause. Cancer incidence endometrial Type 2 is quite rare, accounting for about 10% of cancers endometrium. Most are associated with endometrial atrophy wasting), tend to metastasize, are not well differentiated and have a less favorable prognosis [2], [3].

Data from Center for Disease Control and Prevention (CDC) about the incidence of endometrial cancer in 2017 found that in the United States as many as 57,368 new cases of endometrial cancer and 10,994 died due to this cancer. For every 100,000 women, there are 27 new cases of endometrial cancer and five women died of this cancer. According to the American Cancer Society in America United States, uterine corpus cancer in 2020 was 66,570 new cases, the nineth highest among other cancer cases, and about 12,940 women died of uterine cancer. Endometrium cancer generally affects post-menopausal women; the average age is 60 years and mostly at 45 years [2], [3], [4], [5].

Data from World Health Organization (WHO) Globocan 2018 in Indonesia reported that the incidence of new cases of endometrial cancer was 6745 (1.9%) [6], [7], [8]. This cancer occupies the 13th position with the three highest cancers, namely, breast cancer (16.7%), cervical cancer (9.3%), and lung cancer (8.6%) [9], [10], [11], [12].

Another retrospective and descriptive study at Sanglah Hospital, Denpasar, in August 2012 to July 2014 regarding the profile of cancer patients endometrial cancer found that the proportion of endometrial cancer compared to other gynecological cancers was 9.2% [13].

The study aims to evaluate the clinical profile of endometrial cancer at Sanglah General Hospital from January 2018 to December 2019 and several other profiles related to the epidemiology of endometrial cancer.

Materials and Methods

This retrospective and descriptive study was carried out at the obstetrics and gynecology polyclinic and the medical record installation at Sanglah Hospital Denpasar Bali from January 2018 to December 2019.

This study involved all patients diagnosed with endometrial cancer and underwent surgery or treatment at Sanglah Central General Hospital Denpasar during the study period.

Inclusion criteria were patients undergoing complete diagnosis and treatment whether surgery or medical treatment in Sanglah Hospital.

The exclusion criteria in this study were patients who refused to undergo treatment during the study.

Characteristics of endometrial cancer patients at Sanglah Hospital observed in this study as age, parity, body mass index, history of hypertension, and diabetes mellitus. Histopathological type and stage of cancer endometrium from the patient are also important to decide treatment to be carried out. Treatment includes operative, adjuvant chemotherapy and adjuvant radiotherapy.

Results and Discussion

Our study found that the prevalence of endometrial cancer was 9.1% among all gynecological cancer in Sanglah Hospital (Table 1).

Table 1: The proportion of endometrial cancer to gynecological cancer

Gynecological cancer	Amount	Percentage (%)
Cervical cancer	1388	59.1
Ovarian cancer	695	29.6
Endometrial cancer	215	9.1
Vulvar cancer	29	1.2
Vaginal cancer	19	1.0
Amount	2346	62.1

Based on Table 2, it can be seen that the most complaints in patients with endometrial cancer is 91.4 vaginal bleeding. Complaint the second highest was vaginal discharge by 5.3%. The complaint is first complaint experienced by the patient.

Table 2: Characteristics of endometrial cancer based on complaints

Characteristics	Amount	Percentage (%)
Vaginal bleeding	172	91.4
Vaginal discharge	10	5.3
Pelvic pain	4	2.1
Pelvic mass palpable	2	1.2

Based on Table 3, it can be seen that patients with the age group 51–60 years old have the highest number, namely, 51–60 people (42.0%) while the lowest group was in patients under 20 years where no occurrence in this age group. This study found that as many as 66% of cancer patients endometrial cancer with Grade 3. In Grade 3 endometrial cancer, there was a growth of more than 50% (Table 4). On this study, endometrial cancer patients who received surgery 185 (98.4%), 75.6% received adjuvant chemotherapy, and adjuvant radiotherapy as much as 51.8%. While there are 1.8% who do not get surgery (Table 5).

Table 3: Characteristics of endometrial cancer patients

Characteristics	Amount	Percentage (%)
Age		
<20	0	0.0
20–30	9	4.8
31–40	14	7.4
41–50	22	11.7
51–60	79	42.0
61–70	52	27.7
>70	12	6.4
Parity		
Nullipara	32	17.0
Multipara	109	58.0
Grande multipara	47	25.0
Family History		
There is a family history	28	14.8
No family history	160	85.2
BMI		
<18.5	26	13.8
18.5–24.9	105	55.9
25–26.9	28	14.9
>27	29	15.4
History of hypertension		
There is a history of hypertension	102	54.2
No history	86	45.8
History of diabetes mellitus		
There is a history of DM	53	28.2
No history	135	71.8

BMI: Body mass index.

Discussion

This study found that the most complaint in cancer the endometrium when it comes to check itself is vaginal bleeding. This matters according to research conducted in Manado which received complaints the most common is vaginal bleeding [14], [15], [16]. Based on the American Cancer Society that as many as 90% of patients complain of bleeding abnormal vaginal discharge that makes them go to the facility health. Complaints of abnormal vaginal bleeding may be accompanied by: Other complaints such as vaginal discharge and pain in the abdominal area. The

amount of bleeding is not correlated with the degree of endometrial cancer [17], [18], [19], [20], [21].

Table 4: Characteristics of endometrial cancer based on histopathological type

Characteristics	Amount	Percentage (%)
Stadium		
I	64	34.0
II	80	42.5
III	38	20.2
IV	6	3.3
Histopathology test		
Type I endometrioid	100	53.2
Type II non-endometrioid	88	46.8
Degree of differentiation		
Grade 1	16	16
Grade 2	18	18
Grade 3	66	66

Age is not a factor risk of endometrial cancer, but in this age group, most women have gone through menopause. Menopause is a condition in which a person experiences low estrogen exposure. Low estrogen levels make women often use hormone replacement therapy so it is suspected that excessive exposure to exogenous estrogen is a risk factor for endometrial cancer and endometrial hyperplasia. This is supported by the findings from a study in Poland in 2001–2003 which stated that although there is an increased risk of endometrial cancer in patients aged further but not statistically different [22], [23], [24], [25], [26], [27]. Results were found in a study conducted in Korea where age, which is associated with exposure to the hormone estrogen, increases the risk of cancer endometrium (value p = 0.02) [23], [24], [25], [26], [27], [28], [29]. In this study, further investigation found that at the age of 51–60 years. There are many patients with excessive BMI accompanied by hypertension and the majority in this age group obtained histopathological results, namely, the non-type endometrioid. This is what causes at that age to be susceptible to the occurrence of endometrial cancer in patients at Sanglah Hospital [24], [25], [26], [27], [28], [29], [30], [31].

Table 5: Characteristics of endometrial cancer patients based on management

Management	Amount	Percentage (%)
Operative		
Operative	185	98.4
Adjuvant chemotherapy	140	75.6
Adjuvant radiotherapy	96	51.8
Non-operative		
Non-operative	3	1.6

The majority of endometrial cancer patients in Sanglah Hospital Denpasar are multiparous, with 109 cases (58%) whereas only 32 cases were nulliparous (17%). Hormonal factors have been known to play an important role in the etiopathophysiology of endometrial cancer where the hormone estrogen is a risk factor of this cancer. Nulliparity is a condition in which exposure to increased estrogen is also a risk factor for endometrial cancer [27], [28], [29], [30]. Another study in a group of skinned women blacks in the United States also found that the higher the parity the higher the further reduce the risk of endometrial cancer (value p = 0.57) [31], [32], [33], [34], [35], [36], [37]. This statement is different from that obtained in this study: The higher prevalence of endometrial cancer in patients with multipara (58%). The results of this study are supported by research on Caucasian population comparing 26,936 nulliparous women with 146,583 multiparous women in whom nulliparity does not change risk for cancer endometrium [33], [34], [35], [36], [37], [38], [39], [40], [41], [42]. On parity characteristics against cancer endometrium, it was found that in patients with multiparity, the histopathology results were either Type I or Type II. In patients with multiparity also the majority found hypertension. These two things make that multiparity is more dominant than nullipara. In research that conducted by Sunjoto at Dr. Soetomo Surabaya Hospital (2003), obtained parity 3–4 are mostly found in cases of endometrial cancer. Pathogenic caner Type 2 endometrium tends to occur in women who have 3 or more children (45%) because in multiparous women, there is a decrease in exposure to estrogen compared to nulliparous women. This type is more related to endometrial atrophy, tends to metastasize, and is undifferentiated well [27], [28], [29].

As many as 14.8% of patients have family history of malignancy, while 85.2% did not have family history of malignancy. A history of malignant disease is in the family such as parents, grandfather, grandmother, and sibling biological. A family history of disease is a risk factor for endometrial cancer. A meta-analysis of 16 comparative studies found significantly increased risk of endometrial cancer in women with first-degree relatives with a history of endometrial cancer. Cumulative risk endometrial cancer up to age 70 years in women with first-degree relatives with endometrial cancer had a 3.1 higher risk of developing endometrial cancer compared to the general population [25], [41], [42]. Women with Lynch syndrome (colorectal cancer hereditary non-polyposis) have a high risk of developing endometrial cancer and tends to appear at a young age. In this study, as many as 85.2% of patients had no history of disease malignancy in the family at the time of history taking. This is because the patient lack of detailed information about family history so that information about family history of the disease cannot be provided correctly. Some patients with old age do not have adequate information regarding his family history of illness.

It was found that the most patients have a body mass index of 18.5–24.9 kg/m^2 (normal) with the greatest number, 105 people (55.9%). One study found a relationship between higher BMI and increased mortality [24], [43], [44], [45], [46], [47]. This BMI affects the distribution of fat where in the end, this fat will increase estradiol levels, which is a risk factor for endometrial cancer [40]. In this study, after further investigation, it was found that patients with normal BMI were multiparous; the majority had a history of hypertension and a history of diabetes mellitus. This thing normal BMI occupies the highest number in this study. Besides, a high BMI accompanied by other comorbidities such as diabetes was found to increase the risk of mortality in endometrial cancer both in high

or low-grade endometrium [30]. Research that supports the results of this study states that endometrial cancer with Type 2 pathogenic types tends to occur in women who are thin or with a index normal body mass [3].

This study found that the majority of endometrial cancer patients at RSUP Sanglah in the period January 2018–December 2019 have a history of hypertension (54.2%). This is in accordance with what was found in a meta-analysis, that is, there is a significant relationship between a history of hypertension and endometrial cancer (RR: 1.61, 95% CI: 1.41–1.85) [5]. Hypertension has been associated with various types of cancer although available data are not available consistent. In addition to endometrial cancer, hypertension is also associated with cancer mammary, colorectal, esophageal and adenocancer [34]. Hypertension concomitant obesity and diabetes have been associated with an increased risk of from endometrial cancer. The risk of endometrial cancer in patients with hypertension and obesity increased to 3.5 times higher than in the control group [47]. Based on data from surveillance, epidemiology, and end results, cardiovascular disease has also become the most common cause of death after cancer diagnosis was established in 33,232 patients with endometrial cancer [17].

Conclusion

The proportion of endometrial cancer to total gynecological cancer in Sanglah Hospital Denpasar was 215 cases (9.1%), the third most common gynecologic cancer case in Sanglah Hospital Denpasar. Based on the histopathological type of endometrial cancer patients, from the data obtained that the endometrioid type (53.2%) is a the most common type in endometrial cancer patients.

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