

Research Article

Characteristics of Ovarian Cancer Patients from 2017 – 2023

Hacantya Pradipta,¹ Vegy Supriadi,² Gatot N.A. Winarno³

¹General Practitioner, Santo Yusup Hospital, Bandung,

²General Practitioner, Cahya Kawaluyan Hospital, West Bandung Regency,

³Department of Obstetrics & Gynecology, Faculty of Medicine, Universitas Padjadjaran & Dr. Hasan Sadikin General Hospital, Bandung

Correspondence: Hacantya Pradipta, Email: hacantyapradipta28@gmail.com

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Abstract

Objectives: Ovarian cancer is a malignancy originating in the ovaries and is the most lethal gynecological cancer. It is among the ten most common cancers affecting women in Indonesia. This study aimed to describe the characteristics of ovarian cancer patients treated at Dr. Hasan Sadikin General Hospital, Bandung, during 2017 – 2023.

Methods: This retrospective descriptive study was conducted using medical records of ovarian cancer patients treated at Dr. Hasan Sadikin General Hospital, Bandung, from 2017 – 2023. Data collected included age, parity, body mass index (BMI), clinical stage, histopathological findings, and treatment performed.

Results: A total of 475 patients were identified. The most common characteristics were age 40 – 60 years (59.58%), nulliparity (53.47%), high BMI (51.37%), and clinical stage IIIC (22.74%). The predominant histopathological type was epithelial (78.74%), and the most frequently performed treatment was optimal debulking (33.05%). Most patients were diagnosed at advanced stages, consistent with the nonspecific presentation of ovarian cancer.

Conclusion: Ovarian cancer patients were predominantly middle-aged, nulliparous, overweight, diagnosed at advanced stages, and had epithelial histopathology. The high proportion of advanced-stage diagnoses underscores the importance of increasing awareness, promoting early detection, and optimizing healthcare services to improve prognosis.

Keywords: Gynecological cancer; Hasan Sadikin General Hospital; ovary; patients' characteristics; retrospective study

Karakteristik Pasien Kanker Ovarium Periode 2017 – 2023

Abstrak

Tujuan: Kanker ovarium merupakan keganasan yang berasal dari ovarium dan merupakan kanker ginekologi paling mematikan. Kanker ini termasuk dalam sepuluh jenis kanker tersering pada perempuan di Indonesia. Penelitian ini bertujuan untuk menggambarkan karakteristik pasien kanker ovarium yang dirawat di RSUP dr. Hasan Sadikin Bandung selama periode 2017 – 2023.

Metode: Penelitian deskriptif retrospektif ini dilakukan menggunakan data rekam medis pasien kanker ovarium yang dirawat di RSUP dr. Hasan Sadikin Bandung pada periode 2017 – 2023. Data yang dikumpulkan meliputi usia, paritas, indeks massa tubuh (IMT), stadium klinis, hasil histopatologi, serta tindakan yang dilakukan.

Hasil: Sebanyak 475 pasien diidentifikasi selama periode penelitian. Karakteristik yang paling sering ditemukan adalah usia 40 – 60 tahun (59,58%), nuliparitas (53,47%), IMT tinggi (51,37%), dan stadium klinis IIIC (22,74%). Tipe histopatologi yang paling dominan adalah tipe epitel (78,74%), dan tindakan yang paling sering dilakukan adalah optimal debulking (33,05%). Sebagian besar pasien terdiagnosis pada stadium lanjut, sesuai dengan gejala kanker ovarium yang tidak spesifik.

Kesimpulan: Pasien kanker ovarium didominasi oleh perempuan usia paruh baya, nulipara, dengan kelebihan berat badan, terdiagnosis pada stadium lanjut, dan memiliki histopatologi tipe epitel. Tingginya proporsi diagnosis pada stadium lanjut menegaskan pentingnya peningkatan kesadaran, deteksi dini, dan optimalisasi layanan kesehatan untuk memperbaiki prognosis pasien kanker ovarium.

Kata kunci: Kanker ginekologi; karakteristik pasien; ovarium; RSUP dr. Hasan Sadikin; studi retrospektif

Introduction

Cancer, or malignant tumors, can be defined as the formation of abnormal cells that grow beyond normal limits and can subsequently spread to other parts of the body.¹ One type of cancer that commonly affects women is ovarian cancer. Ovarian cancer is a term that refers to a group of malignancies arising in or around the ovaries and is the most lethal gynecologic malignancy. The most common type of ovarian cancer is the epithelial type (90%), followed by the germ cell type (3%) and the stromal cell type (2%).²⁻⁴

According to the latest estimates from the World Health Organization (WHO) and the International Agency for Research on Cancer (IARC) in 2022, there were approximately 20 million new cancer cases and 9.7 million cancer-related deaths globally. In 2022, ovarian cancer was estimated to account for around 324,603 new cases and 206,956 deaths worldwide.^{1,5} The prevalence of cancer in Indonesia increased from 1.4 per 1,000 population in 2013 to approximately 1.79 per 1,000 population in 2018, according to Riskesdas data.⁶ Ovarian cancer is one of the most common cancers affecting women in Indonesia, ranking third after breast and cervical cancer, with an estimated approximately 15,130 new cases annually and about 9,673 deaths.⁷ The 5-year survival rate for ovarian cancer patients remains low, ranging from approximately 30–43%, primarily because many cases are diagnosed at an advanced stage.⁵ This is because four out of five ovarian cancer patients are only diagnosed after metastasis has occurred, whereas if diagnosed at an early stage (IA and IB), the 5-year survival rate can reach up to 90%.^{8,9} Epithelial ovarian cancer is the most lethal type, with a 5-year survival rate of only 47%, compared to stromal tumors (88%) and germ cell tumors (93%).^{4,9,10}

Based on previous studies, several factors that may increase the risk of ovarian

cancer include age, high Body Mass Index (BMI), use of hormonal therapy, smoking, and a personal or family history of cancer.¹¹ In addition, several factors are known to reduce the risk of ovarian cancer, including the use of oral contraceptives, tubectomy, hysterectomy, short-term use of intrauterine devices (IUDs), and a history of full-term pregnancy.^{9,11}

If a patient is suspected of having ovarian cancer, a thorough evaluation is performed, including history taking, physical examination, and ancillary investigations to establish the diagnosis and assess the possibility of metastasis. Ancillary examinations include complete blood tests, tumor marker CA-125, chest X-ray, and imaging modalities such as abdominal and pelvic ultrasonography (USG), magnetic resonance imaging (MRI), computed tomography (CT) scan, and positron emission tomography (PET) scan, all of which aid in diagnosing ovarian cancer.⁹

The management of ovarian cancer depends on the cancer stage, tumor subtype, patient age, and overall health status, as assessed by the Eastern Cooperative Oncology Group (ECOG) performance status. In general, treatment for ovarian cancer includes surgical staging or debulking, chemotherapy, and targeted therapy.^{2,9}

Based on the data above, it is important to understand the characteristics of ovarian cancer patients, including age, parity, BMI, histopathological features, stage, and type of management. This understanding may contribute to increasing public knowledge and awareness of ovarian cancer. This study was conducted at Dr. Hasan Sadikin General Hospital, Bandung, during 2017–2023.

Method

This study employed a descriptive observational design with retrospective data collection from the medical records of all

ovarian cancer patients at Dr. Hasan Sadikin General Hospital, Bandung, during 2017–2023.

The inclusion criteria for this study were all patients diagnosed with ovarian cancer during 2017–2023 who had complete medical record data for all variables under study. The variables included age, parity, body mass index (BMI), clinical stage, histopathological features, and type of treatment administered.

Results

A total of 475 ovarian cancer patients were identified from the Medical Records Department of Dr. Hasan Sadikin General Hospital, Bandung, during 2017 – 2023.

Table 1 Distribution of Ovarian Cancer by Age Group at Dr. Hasan Sadikin General Hospital, Bandung, 2017 – 2023

Age	Total patients	Percentage (%)
< 20	25	5,26
20-39	116	24,42
40-60	283	59,58
> 60	51	10,74
Total	475	100

As shown in Table 1, the highest number of ovarian cancer cases was observed in the 40-60-year age group, with 283 cases (59.58%), followed by the 20-39-year age group with 116 cases (24.42%), and the group aged over 60 years with 51 cases (10.74%). The lowest number of ovarian cancer cases was found in the age group under 20 years, with 25 cases (5.26%).

As shown in Table 2, the highest number of ovarian cancer cases was observed in the nulliparous group, with 254 patients (53.47%), followed by the multiparous group with 175 patients (36.84%). The lowest

number of ovarian cancer cases was found in the primiparous group, with 46 patients (9.68%).

Table 2 Distribution of Ovarian Cancer by Parity at Dr. Hasan Sadikin General Hospital, Bandung, 2017 – 2023

Parity	Total patients	Percentage (%)
0	254	53,47
1	46	9,68
> 1	175	36,84
Total	475	100

Table 3 Distribution of Ovarian Cancer by Body Mass Index (BMI) Categories at Dr. Hasan Sadikin General Hospital, Bandung, 2017 – 2023

BMI (kg/m ²)	Total Patients	Percentage (%)
< 18,5 (<i>Underweight</i>)	63	13,26
18,5 - 22,9 (Normal)	168	35,37
> 22,9 (<i>Overweight & obese</i>)	244	51,37
Total	475	100

As shown in Table 3, the highest number of ovarian cancer cases was observed in the high BMI group (> 22.9 kg/m²), with 244 patients (51.37%), followed by the normal BMI group (18.5–22.9 kg/m²) with 168 patients (35.37%). The lowest number of cases was found in the underweight group (< 18.5 kg/m²), with 63 patients (13.26%). Overall, 244 patients (51.37%) were classified as having excess body weight (overweight, pre-obese, and obese).

As shown in Table 4, the highest number of ovarian cancer cases at the time of diagnosis was observed at stage IIIC, with 108 patients (22.74%), followed by stage IA with 69 patients (14.53%) and stage IIIB with

63 patients (13.26%). The lowest number of cases was found in stage IIIA and stage IIA, with 5 patients each (1.05%).

Table 4 Distribution of Ovarian Cancer by Clinical Stage at Dr. Hasan Sadikin General Hospital, Bandung, 2017 –2023

Stage	Total Patients	Percentage (%)
IA	69	14,53
IB	17	3,58
IC1	33	6,95
IC2	8	1,68
IC3	25	5,26
IIA	13	2,74
IIB	55	11,58
IIIA1(i)	5	1,05
IIIA1(ii)	24	5,05
IIIA2	5	1,05
IIIB	63	13,26
IIIC	108	22,74
IVA	12	2,53
IVB	38	8
Total	475	100

Table 5 Distribution of Ovarian Cancer by Histopathological Findings at Dr. Hasan Sadikin General Hospital, Bandung, 2017 – 2023

Histopathological Type	Total Patients	Percentage (%)
Surface epithelial	374	78,74
Germ cell	43	9,05
Sex-cord stromal	57	12
Mixed germ cell & sex-cord stromal (Granulosa cell tumor + sertoli cell tumor + dysgerminoma)	1	0,21
Total	475	100

As shown in Table 5, the most common histopathological type was tumors of epithelial

cell origin, with 374 patients (78.74%), followed by sex cord-stromal tumors with 57 patients (12.00%), and germ cell tumors with 43 patients (9.05%). The least common type was mixed cell tumors (germ cell and sex cord-stromal), with 1 patient (0.21%).

Table 6 Distribution of Ovarian Cancer by Type of Treatment at Dr. Hasan Sadikin General Hospital, Bandung, 2017 – 2023

Procedures	Total Patients	Percentage (%)
<i>Conservative surgical staging</i>	59	12,42
<i>Complete surgical staging</i>	98	20,63
<i>Optimal debulking</i>	157	33,05
<i>Suboptimal debulking</i>	147	30,95
Laparotomy biopsy	14	2,95
Total	475	100

As shown in Table 6, 157 out of 475 patients (33.05%) underwent optimal debulking, followed by suboptimal debulking in 147 patients (30.95%), complete surgical staging in 98 patients (20.63%), conservative surgical staging in 59 patients (12.42%), and laparotomy biopsy in 14 patients (2.95%).

Discussion

The results of this study showed that the majority of ovarian cancer patients were in the 40-60-year age group. This finding is consistent with the evidence that the incidence of ovarian cancer increases with age and is less common in individuals under 40 years. The increased incidence at menopausal age may be associated with a decline in the number of oocytes as well as hormonal changes.^{11,12} Previous studies by Rosna Dewi (2005) and Maria Gunawan (2017) also found that ovarian cancer cases were most commonly observed in the 40-50-

year age group.^{13,14}

In this study, most patients were nulliparous women. This condition aligns with the theory that nulliparous women have a higher risk of developing ovarian cancer because continuous ovulation may lead to repeated damage and repair of the ovarian epithelium, potentially triggering cellular proliferation and DNA damage.¹² Studies conducted by Rosna Dewi (2005) and Adindha Yulianti (2012) also found that ovarian cancer was most common among nulliparous women.^{14,15}

The distribution based on body mass index (BMI) showed that most patients had a high BMI. This finding supports previous studies that demonstrated a relationship between obesity and an increased risk of ovarian cancer. Changes in caloric intake and diet quality may influence inflammatory processes, hormonal balance, and metabolism, all of which play roles in carcinogenesis.^{16,17}

Most patients in this study were diagnosed at an advanced stage, particularly stage IIIC. This is consistent with the characterization of ovarian cancer as a “silent killer,” as early stages disease often presents with non-specific symptoms, leading to delays in seeking medical care. Moreover, there is currently no proven effective screening method for early diagnosis.^{11,12} Previous studies by Rizkar (2002) and Yulianti (2012) also reported that most ovarian cancer cases were diagnosed at stage III.¹⁵ However, a considerable proportion of cases in this study (14.53%) were diagnosed at stage IA, which may be attributed to increasing public awareness of ovarian cancer and improvements in healthcare services.

Based on histopathological findings, most cases were epithelial ovarian cancer. This is in accordance with the literature, which states that approximately 80–90% of ovarian cancers originate from the ovarian epithelium, with the most common subtype being serous, particularly high-grade serous

carcinoma. Malignancies arising from germ cells account for about 15% of all ovarian malignancies in Asian populations and are typically found in individuals under 20 years of age. Dysgerminoma is the most common subtype, accounting for 30–40% of germ cell malignancies.^{12, 18}

The most frequently performed procedure in this study was optimal debulking. In early-stage ovarian cancer, the most commonly performed procedure is surgical staging, whereas in advanced stages, debulking or cytoreductive surgery is performed to reduce tumor burden. If the residual tumor after surgery is less than 1 cm, the procedure is categorized as optimal debulking.^{9,12} A study by Adindha Yulianti (2012) also reported that the treatments performed in ovarian cancer patients included surgical staging (44.4%), optimal debulking (22.2%), and suboptimal debulking (15.3%), with treatment selection based on disease stage.¹⁵

These findings are consistent with existing evidence and previous studies indicating that increasing age, nulliparity, and excess body weight are factors associated with a higher incidence of ovarian cancer. The high proportion of diagnoses at advanced stages highlights the importance of improving awareness, enhancing early detection, and optimizing of healthcare services to improve the prognosis of ovarian cancer patients.

Conclusion

This study shows that ovarian cancer was most commonly observed in patients aged 40–60 years, nulliparous women, and those with a high body mass index. Most cases were diagnosed at an advanced stage, particularly stage IIIC, emphasizing that ovarian cancer is still often detected after the disease has progressed. Among histopathological types, the epithelial tumors were the most prevalent, and the most frequently performed treatment was optimal debulking, in accordance with

standard management for advanced-stage disease.

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