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Research Article

A Demographic Study of Vaginal and Vulvar Cancers at a Tertiary Cancer Hospital, Hyderabad

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Abstract: The epidemiology of vulvar and vaginal malignancies has received little attention in the literature. Vulvar and vaginal cancers, particularly vulvar cancer, which occurred in just 1.3% of cases compared to vaginal cancer, which happened in 4.8% of cases, were the least common gynaecological malignancies. Compared to those in the medium and high-income categories, vaginal cancer was more frequently observed in low-income groups. The prevalence of vulvar cancer is the same across all socioeconomic levels. The highest rate of vulvar malignancies (32.68%) and vaginal cancers (37.14%) was found in women between the ages of 51 and 60.43. 15% of vaginal cancer cases were stage III, while 63.63% of vulvar cancer cases were stage IV. Between the ages of 41 and 50, 67.5% of women with vaginal cancer and 55.55% of women with vulvar cancer underwent menopause.

Keywords: Vaginal and vulvar cancers, prevalence, stage of presentation, menopausal age.

Introduction

Vulvar and vaginal cancers were relatively uncommon malignancies, accounting for fewer than 1% of all female cancer cases worldwide in 2018. The majority of vaginal cancers and a smaller percentage of vulvar cancers are linked to HPV, with vulvar cancer incidence rates growing in younger women, possibly as a result of a higher prevalence of high-risk HPV strains. The increases are mostly restricted to younger women and are probably related to generational shifts in sexual behaviour, such as earlier age at sexual debut and rising HPV transmission among cohorts. Regardless of current patterns, it is anticipated that as the world's population continues to age and develop, more and more women will be diagnosed with both types of cancer. High-coverage HPV vaccine has the potential to reduce this growing burden, although results might not be felt for several decades [1]. According to a 2009 analysis, patients with vaginal cancer had a higher HPV prevalence than those with vulvar cancer [2].

Primary vaginal cancer is a rare condition; it is often diagnosed if there is no prior history of cervical or vulvar cancer, no vulvar or cervical squamous cell carcinoma within 5 years, or both [3]. The majority of these lesions will be metastatic from another source site, making the diagnosis of primary vaginal cancer uncommon. Despite the fact that postmenopausal women are more likely to get vaginal cancer, young women are increasingly being diagnosed with the disease, particularly in nations with a high HIV incidence. High-risk HPV infection persistence will be linked to this [4].

A rare kind of female genital tract cancer, vulvar cancer typically manifests in the sixth and seventh decades of life and frequently has palpable inguinal lymph nodes [5]. Vulvar cancer is primarily affecting postmenopausal women. There is no specific screening, and the best way to lower the incidence of vulvar cancer is to treat predisposing and preneoplastic conditions that are linked to its onset at the right time [6].

According to predisposing factors, vulvar cancer can be divided into two categories: the first kind is associated with an HPV infection and primarily affects people who are younger. The second category frequently affects elderly women without neoplastic epithelial diseases and is not related to HPV [7]. 0.3% of all new cancer cases in the US are vulvar cancer instances. Ageing, HPV infection, smoking, vulvar inflammation, previous pelvic radiation, and immunodeficiency are risk factors [8].

Vulvar malignancies provide a serious concern to gynaecologic health because of their recent rise in prevalence. Many vulvar tumours are initially misdiagnosed as inflammatory diseases, which delay detection and worsen prognosis. To achieve accurate diagnosis and treatment, dermatologists must be conversant with the distinctive symptoms of each cancer [9]. Even though vulvar cancer is a rare gynaecologic malignancy, most gynaecologists see women who have the condition at some point in their lives. Younger women who have human papillomavirus infection should be regularly monitored and checked for any suspicious lesions that may be cancerous, even though the majority of patients with this condition are over the age of 50 [10].

Materials and Methods

The present hospital-based study was carried out at Basavatarakam Indo-American Cancer Hospital and Research Institute (BIACH&RI) in Hyderabad, Telangana, India.

Study type and sample size: It is a retrospective hospital-based study. All the patients diagnosed with vaginal and vulvar cancers, who were registered in the hospital-based cancer registry of BIACH&RI during the study time period from January 1, 2017, to December 31, 2021(5 years) were enrolled in the study. As per WHO standardized guidelines on patient information for a Hospital-based cancer registry, detailed information on sociodemographic profile, medical history, symptoms, treatment, family history, and addictions was obtained from the medical records.

Ethical consideration: The ethical review committee of BIACH&RI approved this study–(ECR/7/Inst/AP/2013/RR-20).

Statistical analysis: The data were analyzed with IBM SPSS version 26. The data was displayed using frequency, percentage, mean, standard deviation, and range (minimum and maximum values).

Results

The least frequent gynaecological malignancies were vulvar and vaginal cancers, especially vulvar cancer, which occurred in just 1.3% of cases, as indicated in Table 1, compared to vaginal cancer, which occurred in 4.8% of cases.

Table 1. Percentage of gynaecological malignancies by site

Site	Total	%
Cervix	3118	56.4%
Endometrium	636	11.5%
Ovary	1433	25.9%
Vagina	267	4.8%
Vulva	70	1.3%
Total	5524	100%

Vaginal cancer was seen more commonly in low-income groups (69.29%) compared to those in the medium and high-income categories (30.71%). 51.43% of vulvar cancer cases were seen in medium and high-income categories and 48.58% in low-income groups (Figure 1).

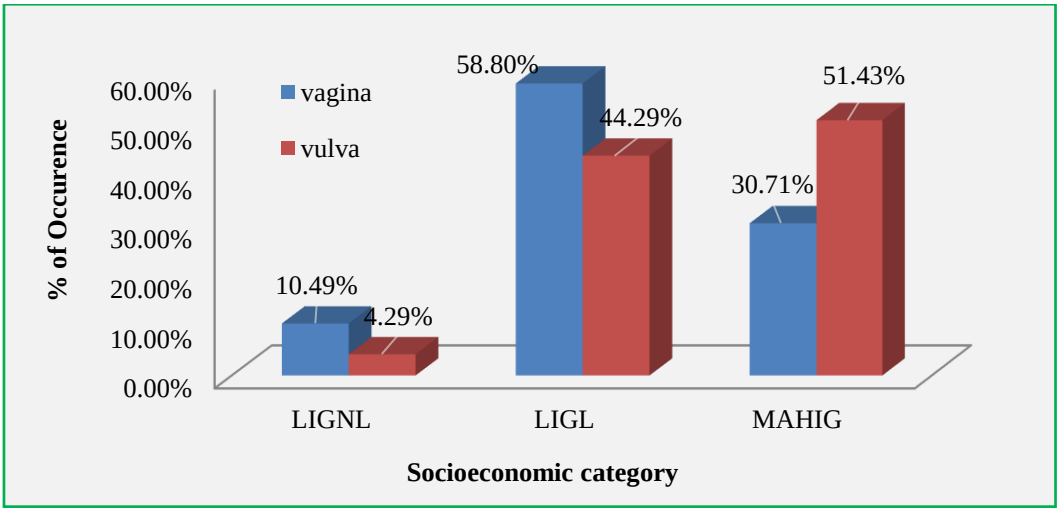

Figure 1. Represented vaginal and vulvar cancer percentages in different socioeconomic groups

The age range between 51 and 60 years reported the largest percentage of vaginal cancers (32.58%), followed by the age range between 41 and 50 years (25.84%), 61 to 70 years (20.22%), 31 to 40 years (10.86%), 71 to 80 years (7.86%), and 81 to 90 years (1.5%). One example affected an infant who was 11 months old, while the other affected a girl who was 5 years old. The mean age was 53.8±12.47.

The highest percentage of vulvar malignancies were found in people between the ages of 51 and 60 (37.14%), followed by those between 61 and 70 (25.71%), 71 to 80 (22.86%), 41 to 50 (8.6%), and 31 to 40 (2.86%). Two cases, one at the age of 30 and the other at 83, were reported. The mean age was 60.7±11.49 (Table 2).

Table 2. Age-wise distribution of vaginal and vulvar cancer in the study population

Age	Vagina	%	Vulva	%
0-10	2	0.67%	0	0%
11-20	0	0%	0	0%
21-30	1	0.37%	1	1.43%
31-40	29	10.86%	2	2.86%
41-50	69	25.84%	6	8.6%
51-60	87	32.58%	26	37.14%
61-70	54	20.22%	18	25.71%
71-80	21	7.86%	16	22.86%
81-90	4	1.5%	1	1.43%
Total	267	100%	70	100%
	Mean age Min-Max 53.8±12.47 (1–90)			Mean age Min-Max 60.7±11.49(30–83)

Figure 2 illustrates the stages of vaginal cancer appearance. A total of 43.15% of instances of vaginal cancer were in stage III, followed by 24.65% in stage II, 23.28% in stage IV, and 8.9% in stage I. Patients with stage IV vulvar cancer made up 63.63% of all cases, followed by stage III (18.18%), stage II (9.09%), and stage I cases (9.09%).

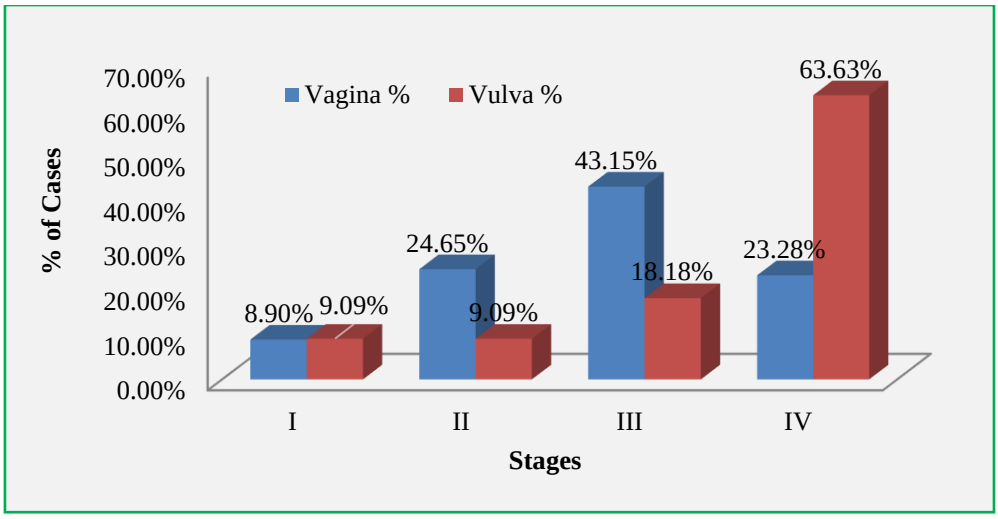

Figure 2. Represented the percentage of vaginal and vulvar cancer cases presented at different stages

9.74% of patients with vaginal cancer and 21.43% of patients with vulvar cancer both had diabetes mellitus. Hypertension was seen in 30% and 15% of patients with vulvar and vaginal cancer, respectively. Hypothyroidism was discovered in 7.14% and 3.75%, respectively, of vulvar and vaginal cancer patients. 12% of vaginal cancer patients and 7% of vulvar cancer patients were discovered to be nulliparous. Menopause was experienced by 67.5% of vaginal cancer patients and 55.55% of vulvar cancer patients between the ages of 41 and 50.

Out of 267 vaginal cancer patients, 48 experienced postmenopausal bleeding, 76 experienced vaginal bleeding, 69 had white discharge, 48 reported abdominal pain, and 18 had problems urinating. Itching, lumps, and odour in the vagina were among the most typical symptoms observed in vulvar cancer patients.

Discussion

The least common gynaecological malignancies in the current study were vulvar and vaginal cancers, particularly vulvar cancer, which occurred in just 1.3% of cases compared to vaginal cancer, which happened in 4.8% of cases. Adhikari et al. reported that 1% to 2% of all malignancies of the female reproductive system are primary vaginal cancers [11]. According to Hacker et al. vulvar cancer makes up about 4% of gynaecologic malignancies [12].

The age group from 51 to 60 years reported the highest percentage of vulvar cancers (37.14%) and vaginal malignancies (32.58%) in the current study. Menopause was experienced by 67.5% of vaginal cancer patients and 55.55% of vulvar cancer patients between the ages of 41 and 50.

Creasman et al. reported that the incidence of vaginal cancer, which primarily arises from the vagina, grows with age, with approximately 50% of patients presenting at age over 70 and 20% over 80 [13]. Baral et al. female vaginal cancer affects women as they age, with the peak occurrence occurring between the sixth and seventh decades of their lives [14].

Singh et al. the peak incidence of vulvar cancer was seen in the age group of 50–70 years. [15]. According to Nandwani et al. the age group with the highest percentage of vulvar cancer cases was 60 to 69 years [5]. The typical age of diagnosis for vulvar cancer, which Anthony Capria et al. detected in 2022, was 65 to 74 [8]. Vulvar cancer mostly affects postmenopausal women, according to research by Olawaiye et al. [6]. The mean age of vaginal cancer was 53.8±12.47 and vulvar cancer was 60.7±11.49. The mean age of the vaginal cancer patients in the study was 53.2 years reported by Adams et al. which is exactly similar to the present study [4]. According to Hami et al. the median

age was 64 years for vulvar cancer (19-96 years) [16]. Singh et al. reported that the mean age for the diagnosis of vulvar cancer was 52 years [15]. Adefuye et al. 2014, reported the mean age for vulvar cancer was (70.00±2.82 years) [17].

Stage III vaginal cancer cases made up a total of 43.15% of cases, and stage IV vulvar cancer patients made up 63.63% of all cases. Nandwani et al. saw the highest percentage of vulvar cancer diagnoses in stage III (44.8%) and the lowest percentage of cases in stage IV (10.3%) [5]. According to Singh et al. 50% of vulvar cancer patients belonged to Stage I and II, while the remaining cases belonged to Stage III and IV [15].

Out of 267 individuals with vaginal cancer, 48 had postmenopausal bleeding, 76 had vaginal bleeding, 69 had white discharge, 48 had abdominal pain, and 18 had micturition issues. The most common symptoms seen in patients with vulvar cancer included vulvar itching, lump, and a vaginal odour.

Vulvar cancer manifests as a lump or an erythematous lesion, as Anthony Capria et al. discovered in 2022. Vulvar itching and a vaginal odour were the two symptoms that were most frequently seen in persons with vulvar cancer [8]. The majority of women report vulvar pruritus, discomfort, a lump, or an ulcer, even though vulvar cancer may be asymptomatic [6]. Capria et al. detected in 2022, that vulvar cancer presents as an erythematous lesion or an ill-defined mass [8].

Rémy et al. has been reported that about 40% of vulvar and 70% of vaginal cancers may be linked to human papillomavirus (HPV) [18]. Infection with high-risk human papillomavirus (HPV) is causally related to cervical, vulvar and vaginal pre-invasive neoplasias and cancers. Incidence of vulvar cancer dropped during a 24-year period, from 2.25% between 1984 and 1988 to 0.33% between 2004 and 2008, per Chhabra et al. research [19].

Conclusions

Vaginal and vulvar cancers appear to be occurring more frequently. Vulvar cancer incidence rates are rising in younger women, probably as a result of a larger prevalence of high-risk HPV strains, and vaginal cancers, which account for the bulk of cases, are mostly connected to HPV. Although impacts would not be realised for several decades, a high-coverage HPV vaccine has the potential to lessen this mounting burden. Younger women with human papillomavirus infection need to be closely watched and evaluated for any suspicious lesions that could be malignant on a regular basis. Postmenopausal women are the group most commonly affected by vulvar cancer. The best strategy to reduce the incidence of vulvar cancer is to address predisposing and preneoplastic diseases that are connected to its beginning at the appropriate time. There is no particular screening available. The initial misdiagnosis of many vulvar tumours as inflammatory illnesses delays discovery and worsens prognosis. For appropriate diagnosis and therapy, more research is required.

Conflicts of interest: The authors declare no conflicts of interest.

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