

Introduction

Cervical cancer is the fourth most common malignancy among women worldwide, and though the majority of cervical cancer cases are caused by persistent high risk human papilloma virus (HR-HPV) infection, non-human papilloma virus associated cervical cancer (NHPVA CC) is now considered an independent category. However, the clinical and prognostic criteria of HPV negative cervical cancer are less clear, so this study aimed to provide more insight into the clinical and pathological characteristics of this unusual group of cervical cancers.

Aim of the Work

The objective of this study is to

- Determine the prevalence of HPV among cases of cervical cancer at El-Shatby University Hospital.
- Compare between cases of HPV-associated and HPV- independent cervical cancer regarding their clinic-pathological presentation, attributable clinical and pathological risk factors.

Patients and Methods

The study was conducted on patients with cervical cancer at El-Shatby Maternity University Hospital in the three years between January 2019 and December 2021. Using p16 as a marker for HPV, we classified our cases into HPV associated cervical cancer (HPVA CC) and NHPVA CC. Clinicopathologic criteria such as age, presenting FIGO stage, lymph node status, and presenting histopathological type were compared between both groups.

Results

NHPVA CC represented a significant proportion of cervical cancer patients presented to Alexandria University Hospital (23.8% of cervical cancer patients). NHPVA CC is frequently diagnosed at more advanced FIGO stage than HPVA CC (9/10 90% vs. 17/32 50%, $p=0.031$). NHPVA CC more commonly presents as adenocarcinoma histopathological type (50% vs. 15.6%, $p=0.04$), unlike HPVA CC which mainly of the SCC type (75% vs. 30%, $p=0.02$) but can also present as adenocarcinoma. However, no statistically significant difference was found between the two groups regarding the presenting age of both categories or the incidence of LN metastasis.

Table 1: Comparison between the two studied groups according to Stage and Tumor size

	Total (n = 42)		P16				χ^2	^{FE} p
			Positive (n = 32)		Negative (n = 10)			
	No.	%	No.	%	No.	%		
Stage								
Early (1A-1B2)	17	40.5	16	50.0	1	10.0	5.060	0.031
Advanced (1B3-4)	25	59.5	16	50.0	9	90.0		

Table 2: Comparison between the two studied groups according to pathology

Pathology	Total (n = 42)		P16				χ^2	FEp
			Positive (n = 32)		Negative (n = 10)			
	No.	%	No.	%	No.	%		
Pathology								
SCC	27	64.3	24	75.0	3	30.0	6.720*	0.020*
Neuroendocrine	1	2.4	1	3.1	0	0.0	0.320	1.000
Adenosquamous	4	9.5	2	6.3	2	20.0	1.672	0.236
Adenocarcionma	10	23.8	5	15.6	5	50.0	4.963*	0.040*
Mucinous	5	11.9	4	12.5	1	10.0	0.045	1.000
Clear cell	4	9.5	1	3.1	3	30.0	6.386*	0.036*
Gastric type	1	2.4	0	0.0	1	10.0	3.278	0.238

χ^2 : Chi square test

FE: Fisher Exact

p: p value for comparing between the two studied groups.

*: Statistically significant at $p \leq 0.05$

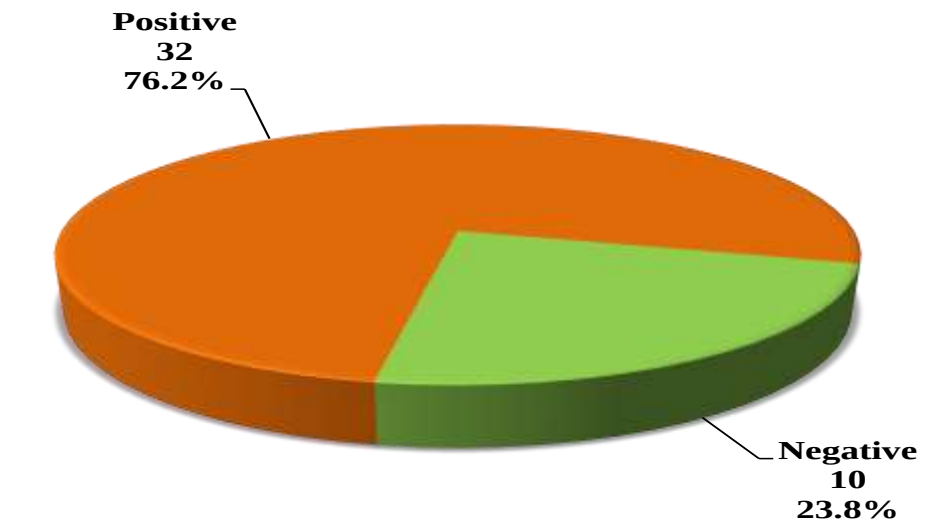


Figure: Distribution of the studied cases according to P16

Conclusion

NHPVA CC represented a significant proportion of cervical cancer patients, and this proportion has its own clinicopathological criteria, as it tends to present in menopausal women and usually presents at more advanced stages than HPV dependent type, which is the major prognostic factor in CC, which can indicate that NHPVA CC carries a worse prognosis than HPVA CC. NHPVA CC more commonly presents as adenocarcinoma histopathological type, however, there is no difference regarding the incidence of LN metastasis between HPVA and NHPVA CC. Therefore, all CC cancer cases should be classified according to the new WHO classification of CC into either HPV dependent or HPV independent. Further studies are needed regarding this category of CC as a better understanding of its molecular and clinicopathological criteria can affect screening and even therapeutic regimens for this category of cases.