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Case Report

HSIL in a 32-Year-Old Patient with 11 Years of Normal Cytology and a Positive High-Risk HPV Test: A Case Report

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Abstract

In Cyprus: Among women aged 15-45 years of age - cervical cancer is the 3rd most common female cancer and is also the 3rd leading cause of female cancer deaths. The most commonly identified and well-known causative factor is HPV virus. Our case refers to a 32-year-old woman that had consecutive normal pap smear cytology results, for 11 years. At her last visit, a cervical sample was taken for HPV identification (a pilot program). The results revealed an infection with high-risk HPV strains. During the colposcopy that followed, HSIL was diagnosed and a loop excision was crucial to treat the precancerous lesion. This case highlights the primary causative factor of cervical cancer and underscores the importance of HPV DNA testing in the early identification of premalignant lesions.

Precis: Emphasizing the need to update cervical cancer screening programs by shifting from cytology-based tests to primary HPV testing.

Keywords: ***Cervical Cancer Screening, HPV DNA Test, Pap Smear, Cervical Cytology.***

Introduction

Among women worldwide, cervical cancer is the 4th most common cancer [1]. Risk factors for cervical cancer are mainly preventable and include: Human Papillomavirus (HPV) infection, multiple sexual partners, early sexual activity, smoking, immunocompromised status, chlamydia infection, long term oral contraception use, having multiple full-term pregnancies, young age at first full-term pregnancy, low socioeconomic status, lack of regular screening and low consumption of vegetables and fruits [5]. HPV is the main cause of cervical cancer, in particular HPV types 16 and 18, which account for around 70% of cervical cancer cases worldwide [5].

Since the development of the Pap test in the 1940s, cervical cancer screening has been globally practiced. Following the identification of HPV as the primary causative agent of cervical cancer, HPV-based screening tests have gained prominence for being more sensitive compared to the initial pap test, which was the initial tool for aiding diagnosis [3]. The aim of this case report is to highlight the importance of HPV DNA testing and implementing it into screening programmes.

Case Presentation

A 32-year-old female of Cypriot origin presented for a routine pap smear cytology. The patient's medical history is relatively unremarkable besides a recent strangulated hernia that was operated, 5 months prior and a bariatric surgery performed 5 years ago. Her obstetric history includes two pregnancies carried to term (gravida 2, para 2), and her gynaecologic history is notable for annual pap smears since the age of 21. Cytology results were normal every year, with the most recent results showing Negative for Intraepithelial Lesion or Malignancy (NILM) and only slight inflammation.

As per Cyprus regulations, cervical cytology testing is conducted every two years and HPV testing is only conducted following abnormal cytology results. However, a new piloting scheme provided a handful of HPV tests to hospitals to use at their own discretion. This female was encouraged to perform an HPV test with her consent. The HPV DNA test was positive for a high-risk strain of HPV, namely HPV 16 as well as other strains including HPV 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68. Upon these findings, a colposcopy with biopsies from infected areas was performed, which revealed High-Grade Intraepithelial Lesion (HSIL), Cervical Intraepithelial Neoplasia 2 (CIN2). A Large Loop Excision of the Transformation Zone (LLETZ) was warranted following these results, which constituted the final treatment for this patient.

Discussion

Current screening programmes for cervical cancer differ throughout the world. There has been a notable change in various countries with the introduction of HPV testing. The World Health Organisation (WHO) now recommends primary HPV-based Testing.

In the United States, according to United States Preventive Services Task Force (USPSTF) and the American Cancer Society

(ACS), the most recent guidelines, for cervical cancer screening as of 2020 are as follows: HPV testing is recommended every 5 years beginning at 25 years through to the age of 65 [6]. Alternatively, a Pap smear can be done every 3 years, or an HPV/Pap co-test can be conducted every 5 years. Females over the age of 65 require no screening if prior tests in the last decade were normal.

In the United Kingdom, the National Health Service (NHS) guidelines have also changed to a Primary HPV screening system where females are tested for HPV every 3 years from the age of 25-49 years old, and subsequently every 5 years until the age of 64 years [7]. In this system, only if a patient is positive for HPV, is referred for a pap smear and cytology as its proven to be more sensitive.

In Greece, the Hellenic Obstetrics and Gynaecology Society [4], recommends the first Pap smear at age 21. For females between the ages of 21-30 years-old subsequent cytology testing every 3 years is recommended. For females aged 30-65 years, recommendations include the co-test with HPV and cytology every 3 years. Females over the age of 65, do not require screening if the previous 3 results within the last 10 years were negative.

In Cyprus, cervical cancer screening tests are covered by the national healthcare system every two years. Therefore, females aged 18 to 64 are recommended to undergo Pap Smear testing every two years. Females over the age of 65 require no screening if three prior cervical cytology tests were normal in the last decade [8].

Although there are proposed guidelines, unfortunately, not all hospitals are equipped with the adequate resources. Moreover, the public's health insurance policy does not cover the HPV DNA testing expenses. Regarding our patient who had regular Pap smears with consistently normal cytology results, an underlying HPV infection might not have been detected, potentially delaying the identification of CIN2 and the initiation of necessary follow-up investigations, such as colposcopy and Loop excision. This scenario underscores the importance of considering complementary health insurance testing strategies that could enhance early detection and intervention, thereby improving patient outcomes.

Many healthcare systems have already transitioned to the primary HPV system [2]. A greater effort should be made to make these tests more accessible and widely implemented worldwide. Cervical cancer is a fully preventable disease but remains one of the main causes of death in many countries [2].

Ethics approval and consent to participate

Written informed consent was obtained from the patient.

List of abbreviations

HPV: Human Papilloma Virus
NILM: Intraepithelial Lesion or Malignancy
HSIL: High-Grade Intraepithelial Lesion
CIN2: Cervical Intraepithelial Neoplasia 2
LLETZ: Large Loop Excision of the Transformation Zone
WHO: World Health Organisation
USPSTF: United States Preventive Services Task Force
ACS: American Cancer Society
NHS: National Health Service

Data Availability

Data is available upon request by corresponding author.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Authors' contributions

The authors confirm contribution to the paper as follows:

Study, conception and design: NF, XB
Data collection: NF, AVK, GP, XB
Analysis and interpretation of patient data: NF, AVK, GP, XB
Draft manuscript preparation: NF, XB
All authors reviewed the results and approved the final version of the manuscript.

Supplementary Materials

Not applicable

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