HYGIENIC AND EPIDEMIOLOGICAL FACTORS IN THE DEVELOPMENT OF CERVICAL EROSION

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Cervical erosion (CE) is one of the most common gynecological conditions among women, often remaining asymptomatic and therefore underdiagnosed. When clinical manifestations are present, patients may report vaginal discharge, postcoital bleeding, and a sensation of discomfort in the lower abdomen. The prevalence of true CE among women seeking gynecological care ranges from 1.6% to 2.87%, although this figure may be underestimated due to the asymptomatic nature of many cases. In clinical practice, differentiation between true cervical erosion, cervical ectopia, and ectropion is essential for accurate diagnosis and management. Despite the terminological differences, in many studies pseudoerosions are still commonly referred to as erosions, which can lead to diagnostic inaccuracies and delayed intervention.

The pathogenesis of CE is multifactorial and involves a combination of infectious, hormonal, mechanical, and environmental factors. Infectious-inflammatory processes, particularly those caused by sexually transmitted infections (STIs) and the human papillomavirus (HPV), play a critical role in the development of cervical epithelial defects. Mechanical trauma to the cervix, whether due to childbirth, medical procedures, or sexual activity, contributes to epithelial damage and subsequent replacement of the squamous epithelium with columnar epithelium. Hormonal imbalances, including those associated with menstrual irregularities, further exacerbate the vulnerability of cervical tissue to erosive changes. Epidemiological studies indicate that women with irregular menstrual cycles are several times more likely to develop CE, emphasizing the role of hormonal factors in the disease's etiology.

Hygienic factors also significantly influence the development of CE. Poor

menstrual hygiene, inappropriate genital care, and exposure to unsanitary conditions increase susceptibility to infections, which in turn promote cervical epithelial damage. Additionally, nutritional deficiencies and lifestyle factors, such as inadequate diet and early onset of sexual activity, have been shown to elevate the risk of cervical pathology. Socioeconomic status and education level are closely linked to preventive behaviors: women with limited knowledge of reproductive health often delay seeking care, even when symptoms of CE are present. This delay not only increases the likelihood of complications but may also lead to progression toward pre-cancerous or malignant conditions.

From a morphological perspective, CE is characterized by a defect in the epithelial lining of the cervical canal, with replacement of the normal squamous epithelium by columnar epithelium. True erosions should be distinguished from pseudoerosions, such as ectopia or ectropion, which involve similar epithelial changes but differ in pathogenesis and clinical significance. The natural course of true cervical erosion often involves rapid epithelialization; however, untreated lesions, especially in the presence of persistent infections or hormonal disturbances, may become chronic and contribute to long-term reproductive complications. Morphological evaluation remains an important tool in differentiating CE from pre-cancerous conditions and guiding clinical management.

Modern preventive strategies have demonstrated significant effectiveness in reducing both the prevalence and complications of CE. HPV vaccination, in particular, has proven highly effective not only in preventing HPV infection but also in lowering the incidence of CE and subsequent cervical cancer risk. Education on menstrual hygiene, safe sexual practices, and prompt management of infections contributes to the overall reduction of CE prevalence. Integration of molecular diagnostics, including HPV genotyping and biomarker profiling, enables early identification of high-risk individuals and supports targeted preventive interventions. These approaches represent a significant advancement in the epidemiological management of CE, allowing for more personalized and effective

preventive strategies.

In addition to medical interventions, public health measures play a vital role in mitigating CE risk. Outreach programs focusing on reproductive health education, access to hygiene facilities, and community awareness campaigns have demonstrated positive effects in reducing the incidence of cervical pathology. Women of lower socioeconomic status or with limited access to healthcare benefit most from these measures, as they address barriers to early detection and timely management. Preventive strategies should therefore combine individual hygiene practices, clinical monitoring, vaccination programs, and broader public health initiatives to achieve optimal outcomes.

In conclusion, cervical erosion is a multifactorial gynecological disorder influenced by a complex interplay of hygienic, epidemiological, hormonal, and social factors. True CE is relatively rare but may remain undetected due to its asymptomatic course, highlighting the importance of routine gynecological examinations. Prevention and early management are crucial and include HPV vaccination, improved personal hygiene, infection control, and educational interventions aimed at increasing awareness of reproductive health. The integration of molecular diagnostics and risk-based prevention strategies represents a novel approach in modern gynecology, providing opportunities to reduce disease prevalence, prevent progression to pre-cancerous states, and improve overall reproductive health outcomes for women.

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