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Short Communication

Degeneracy and Decline-Atrophy of Uterine Cervix

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Introduction

Atrophy of uterine cervix is comprised of enhanced quantification of basal and parabasal squamous epithelial cells and may simulate squamous intraepithelial lesion (SIL) on morphological grounds. Lesion may be discerned upon clinical determination of atypical squamous epithelial cells of undetermined significance (ASCUS). Atrophy of uterine cervix may enhance discernible incidence of atypical squamous epithelial cells of undetermined significance (ASCUS) which may be appropriately enunciated with Papanicolaou smears obtained from peri-menopausal and post-menopausal female subjects. Generally, atrophy of uterine cervix exemplifies cytological smears of scanty cellularity. Besides, atypical squamous epithelial cells of undetermined significance (ASCUS) may be encountered within smears obtained from postmenopausal women. Aforesaid alterations may recede following application of topical oestrogens. Cytological evaluation depicts enhanced quantifiable parabasal and basal squamous epithelial cells which configure sheets and syncytial-like cellular aggregates. Alternatively, crowded clusters of squamous epithelial cells permeated with hyperchromatic nuclei may be encountered. Besides, naked nuclei and miniature squamous epithelial cells may be observed [1,2]. Constituent squamous epithelial cells demonstrate enhanced nucleocytoplasmic ratio although nuclear chromatin appears uniform. Additionally, pseudo-keratinized squamous epithelial cells pervaded with pink to orangophilic cytoplasm may be enunciated, possibly occurring on account of cellular degeneration (1,2). Cytological smears obtained from instances with severe atrophy of uterine cervix may exhibit a 'dirty' background which is pervaded with an infiltrate of acute and chronic inflammatory cells admixed with giant cells, cellular and nuclear debris, fibrin, foci of ancient haemorrhage and 'blue blobs' constituted of condensed mucus or degenerated, bare nuclei [2,3]. Smears subjected to examination with liquid based cytology may demonstrate a 'clean' background associated with amalgamation of atrophic squamous epithelial cells. Atrophy of uterine cervix may simulate urothelial metaplasia upon cytological grounds although constituent cells display prominent intercellular bridges. Cellular nuclei appear bland, elongated, grooved and uniformly dispersed (2,3). Upon microscopy, superficial epithelial cell layers appear devoid of cellular or nuclear atypia or mitotic figures. Stratified squamous epithelium layering the atrophic uterine cervix appears bland and immature Figure 1. Constituent squamous epithelial cells depict prominent intercellular bridges. Cellular nuclei appear uniform, elongated, grooved, and regularly spaced Table 1. Distinctive foci of nuclear enlargement or hyperchromatic nuclei may be observed. Foci of pseudo-koilocytosis may be discerned Figure 2. Lesion appears reminiscent of urothelial metaplasia upon histological evaluation [3,4].

Table 1: Differentiation between atrophy and HSIL (3).

Cytological features	Atrophy	HSIL
Cellular margin	Poorly defined	Distinct
Nucleocytoplasmic ratio	Low	Elevated
Nucleoli	Frequently discerned	Absent

Cellular population	Uniform	Heterogeneous
Polarity	Streaming	Haphazard loss of polarity
Background	Identical cells	Singly scattered HSIL cells

HSIL: High grade squamous intraepithelial lesion.

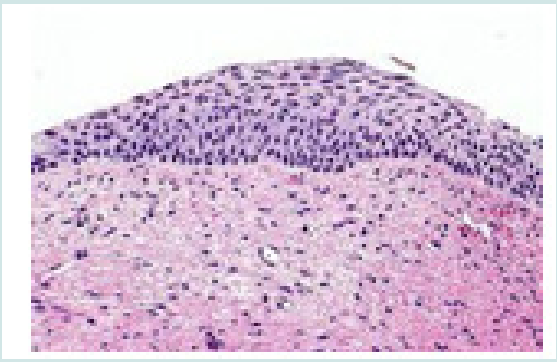

Figure 1: Atrophy of uterine cervix demonstrating superficial layer of bland, immature stratified squamous epithelial cells with prominent intercellular bridges and incorporation with uniform, elongated, grooved, hyperchromatic nuclei. Constituent cells lack cellular or nuclear atypia or mitotic figures (7).

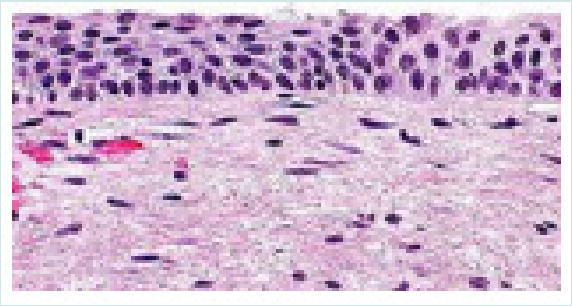

Figure 2: Atrophy of uterine cervix delineating superficial layer of uniform, immature stratified squamous epithelium with prominent intercellular bridges and permeation with bland, elongated, grooved, hyperchromatic nuclei. Cellular components are devoid of cellular or nuclear atypia or mitotic figures (8).

Constituent cells of atrophy of uterine cervix appear immune non-reactive to cyclin E and p16. Ki 67 labelling index is minimal [5,6]. Atrophy of uterine cervix requires segregation from neoplasms such as squamous intraepithelial lesion (SIL) or tumour diathesis. Atrophy of uterine cervix can be appropriately treated with o estrogen which may induce maturation of atypical atrophic squamous epithelial cells although population of dysplastic cells remains unresponsive to o estrogen therapy (5,6). Atrophy of uterine cervix mandates evaluation of human papilloma virus (HPV) infection as a preliminary modality of disease management modality [7,8]. Aforesaid treatment strategy may be beneficially adopted within postmenopausal women demonstrating cytological features of low grade squamous intraepithelial lesion (LSIL) (5,6).

References

1. Campaner AB, Fernandes GL (2023) Evaluation of 1,030,482 Cervical Smear Results in Brazilian Population. Asian Pac J Cancer Prev 24(3): 867-872.
2. Yan L, Xiao X, He L, Liye Shi, Xue Yang, et al. (2023) Efficacy of optical coherence tomography in the triage of women with minor abnormal cervical cytology before colposcopy. PLoS One 18(3): e0282833-0282833.
3. Shin E, Yu J, Hong SW (2023) Troublemakers in cytologic interpretation of the uterine cervix. J Pathol Transl Med 57(3): 139-146.
4. Ndifon CO, Al-Eyd G (2023) Atypical Squamous Cells of Undetermined Significance. Stat Pearls International. Treasure Island. Florida.
5. Perkins RB, Guido RS, Castle PE, David Chelmow, Mark H Einstein, et al. (2020) 2019 ASCCP Risk-Based Management Consensus Guidelines for Abnormal Cervical Cancer Screening Tests and Cancer Precursors. J Low Genit Tract Dis 24(2): 102-131.
6. Wilbur DC (2016) Practical issues related to uterine pathology: in situ and invasive cervical glandular lesions and their benign mimics: emphasis on cytology-histology correlation and interpretive pitfalls. Mod Pathol 29(1): 1-11.
7. Image 1 Courtesy: Wikimedia commons
8. Image 2 Courtesy: Libre pathology

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