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Editorial

Nethermost and Equidistant - Adenoid Basal Carcinoma Cervix

Anubha Bajaj*

Department of Histopathology, Panjab University/A.B. Diagnostics, India

***Corresponding Author:** Anubha Bajaj, Department of Histopathology, Panjab University/A.B. Diagnostics, India.

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Abstract

Adenoid basal carcinoma of uterine cervix represents as an exceptional, gradually progressive neoplasm demonstrating an indolent clinical course, superior prognostic outcomes and infrequent distant metastasis. Neoplasm is posited to emerge from multipotent cells situated within basal layer or reserve cells of cervical epithelium and appears concordant with human papilloma virus infection. Solid nests of basaloid tumour cells configure a grouped, lobular pattern wherein neoplastic cells are permeated with scanty cytoplasm, uniform, miniature, spherical nuclei and peripheral nuclear palisading. Tumour cells appear immune reactive to CK14, CK17, CK19, p16, epithelial membrane antigen (EMA), Ki67 and high risk variants of human papilloma virus (HPV) as HPV 16. Adenoid basal carcinoma of uterine cervix requires segregation from neoplasms such as adenoid basal hyperplasia, adenoid cystic carcinoma, invasive squamous cell carcinoma or basaloid squamous cell carcinoma of cervix. Tumefaction can be appropriately treated with conservative manoeuvers as loop electrosurgical excision procedure (LEEP) or conisation of cervix.

Keywords: Solid; Basal; Peripheral Palisading

Introduction

Adenoid basal carcinoma of uterine cervix represents as an extremely exceptional, gradually progressive neoplasm associated with an indolent clinical course, superior prognostic outcomes and infrequently discerned distant metastasis. The uncommon, low grade adenoid basal carcinoma of cervix is predominantly asymptomatic and may be discerned upon retrospective examination of surgical specimens. Tumefaction preponderantly emerges within postmenopausal females and histologically simulates cutaneous basal cell carcinoma.

Adenoid cystic carcinoma of cervix is associated with squamous intraepithelial lesions (SIL). As per the current World Health Organization (WHO) classification, tumefaction is designated as 'adenoid basal carcinoma' of uterine cervix.

Commonly, neoplasm is detected following specific abnormal features discerned upon Papanicolaou smears or as an incidental discovery following surgical resection of uterine cervix.

Precise distinction from adenoid cystic carcinoma of uterine cervix is necessitated on account of divergent clinical behaviour.

Additionally scripted as adenoid basal epithelioma, tumefaction may be preceded by 'adenoid basal hyperplasia' which configures as an identical lesion confined to superficial endocervical glands.

Besides, it is posited that terminology of 'adenoid basal carcinoma' may be adopted for infiltrative cervical neoplasms demonstrating stromal desmoplasia and malignant cytological features.

Adenoid basal carcinoma configures < 1% of malignant disorders of uterine cervix. Tumefaction commonly incriminates elderly postmenopausal females of non Caucasian, Asian or African American descent [1,2].

Adenoid basal carcinoma of uterine cervix is hypothesized to emerge from multipotent cells situated within basal layer or re-

serve cells of cervical epithelium. Tumefaction is concordant with cervical infection with high risk variants of human papilloma virus (HPV) as HPV 16 [1,2].

Genomic mutations within TP53 as wild type hyper-expression or chromosomal damage with p53 point mutations may be encountered. Majority (~90%) of neoplasms are asymptomatic. However, vaginal bleeding may be encountered. Majority of adenoid basal carcinomas are concordant with high grade squamous intraepithelial cells (HSIL) or various invasive neoplasms as invasive squamous cell carcinoma or adenoid cystic carcinoma of uterine cervix [1,2].

Cytological examination demonstrates unremarkable morphological features as the sub-epithelial neoplasm with lack of surface component may be unrecognizable upon cytological assessment.

As tumefaction is associated with high grade squamous intraepithelial lesion, tumour cells depict immune reactivity to human papilloma virus (HPV), especially high risk variants as HPV16 [3,4].

Besides, neoplastic cells may be highlighted with Papanicoloau stain. Cytological assessment with Papanicolaou smear may exemplify high grade squamous intraepithelial lesion (HSIL).

Tumour cells configure three dimensional, non cohesive groups and aggregates of intact, miniature and uniform epithelial cells pervaded with scanty cytoplasm and dense, basophilic, hyperchromatic, overlapping nuclei with fine, granular nuclear chromatin and miniature, inconspicuous nucleoli. Occasional foci of peripheral nuclear palisading are discerned. Glandular configurations are absent. In contrast to smears delineating reactive atypia, a 'windswept' countenance is observed [3,4].

Upon gross examination, cervix appears unremarkable or devoid of macroscopic abnormality. Exceptionally, cervical ulceration may ensue [3,4].

Upon microscopy, tumour is composed of solid nests of basaloid tumour nests with peripheral nuclear palisading. Besides, cord-like articulations or micro-cysts may be discerned. Configured acini appear devoid of hyaline substance.

Neoplastic cells appear as uniform, spherical to elliptical cells incorporated with scanty cytoplasm, miniature hyperchromatic nuclei and inconspicuous nucleoli. Nuclear atypia is minimal.

Microscopically, solid nests of basaloid tumour cells configuring a grouped, lobular pattern are encountered. Neoplastic cells are permeated with scanty cytoplasm and uniform, miniature, spherical nuclei with distinct peripheral nuclear palisading. Centric foci of glandular metaplasia, squamous metaplasia and cystic spaces pervaded with necrotic debris are exemplified [3,4].

Circumscribing desmoplastic stroma is absent. Tumefaction is associated with squamous intraepithelial lesion, especially high grade squamous intraepithelial lesion (HSIL).

Majority of neoplasms depict absent to minimal mitotic activity. Vascular or lymphatic tumour invasion is absent [3,4].

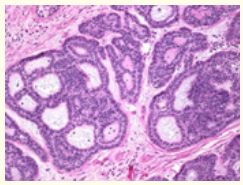

Figure 1: Adenoid basal carcinoma depicting groups and lobules of basaloid tumour cell imbued with scanty cytoplasm and miniature, spherical, hyperchromatic nuclei with peripheral palisading enmeshed within a fibrotic endocervical stroma. Mitotic activity is insignificant [7].

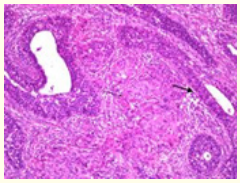

Figure 2: Adenoid basal carcinoma with foci of invasive squamous cell carcinoma delineating nests of basaloid tumour cells permeated with scanty cytoplasm and miniature, spherical nuclei with peripheral palisading entangled within a fibrotic endocervical stroma. Mitotic figures and cytological atypia are minimal [8].

FIGO staging of carcinoma cervix [3,4]

Stage I: carcinoma confined to cervix with absent extension to uterine corpus

- Stage IA: carcinoma discernible upon microscopy with depth of invasion ≤5 millimetres

- Stage IA1: depth of stromal invasion≤ 3 millimetres.
- Stage IA 2: depth of stromal invasion > 3 millimetres and ≤5 millimetres.

Stage IB: stromal invasion > 5 millimetres with tumour confined to the cervix

- Stage IB1: tumour > 5 millimetres in depth and ≤ 2 centimetres in greatest dimension
- Stage 1B2: tumour > 5 millimetres in depth and > 2 centimetres and ≤4 centimetres in greatest dimension
- Stage IB3: tumour > 5 millimetres in depth and > 4 centimetres in greatest dimension

Stage II: tumour extension beyond the uterus with absent invasion of pelvic wall or lower 1/3rd of vagina

- Stage IIA: tumour confined to upper 2/3rd of vagina with absent extension to parametrium
- Stage IIA1: tumour ≤ 4 centimetres in greatest dimension
- Stage IIA2: tumour > 4 centimetres in greatest dimension
- Stage IIB: tumour extension into parametrium with sparing of pelvic wall

Stage III: tumour extension into pelvic wall and/or incrimination of lower 1/3rd of vagina and/or occurrence of hydronephrosis or non functioning kidney and/ or incrimination of pelvic or para-aortic lymph nodes

- Stage IIIA: tumour extension to lower 1/3rd of vagina with absent extension to pelvic wall
- Stage IIIB: tumour extension into pelvic wall and/or occurrence of hydronephrosis or non functioning kidney
- Stage IIIC: tumour extension into pelvic or para-aortic lymph nodes irrespective of tumour extent or magnitude
- Stage IIIC1: tumour metastasis into pelvic lymph nodes
- Stage IIIC2: tumour metastasis into para-aortic lymph nodes

Stage IV: tumour extension beyond true pelvis or histological evidence of incrimination of urinary bladder or rectal mucosa

- Stage IVA: tumour extension into adjacent pelvic organs
- Stage IVB: tumour extension into distant organs

Pathological features may superimpose upon imaging features and clinical features while determining tumour extent and magnitude within staging procedures.

Depth of invasion necessitates assessment from base of surface or glandular epithelium of neoplastic origin.

Incrimination of vascular spaces as venous channels or lymphatic channels or lateral tumour extension may not alter staging protocols [3,4].

Adenoid basal carcinoma of uterine cervix appears immune reactive to CK14, CK17, CK19, p16, epithelial membrane antigen (EMA) or Ki67. Immune reactivity to high risk variants of human papilloma virus (HPV) as HPV 16 and diffuse expression of p16 may be observed.

Tumour cells appear immune non reactive to CD117, laminin and type IV collagen [5,6].

Adenoid basal carcinoma of uterine cervix requires segregation from neoplasms such as adenoid basal hyperplasia, adenoid cystic carcinoma or invasive squamous cell carcinoma and basaloid squamous cell carcinoma of cervix [5,6].

Adenoid basal carcinoma of uterine cervix can be appropriately treated with conservative therapeutic manoeuvers as loop electrosurgical excision procedure (LEEP) or conisation of cervix [5,6].

Prognostic outcomes are excellent. Neoplasm is accompanied by minimal possible tumour reoccurrence or distant metastasis.

Tumours depicting a 'pure' morphology are associated with superior prognostic outcomes.

Adenoid basal carcinoma of uterine cervix may exceptionally metastasize into pulmonary parenchyma. Metastatic foci may simulate morphological features of morpheaform variant of cutaneous basal cell carcinoma [5,6].

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7. Image I Courtesy: Web pathology.

8. Image 2 Courtesy: Diagnostic pathology biomed central.