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Coelenterate and Germinal-Müllerian Papilloma Cervix: A Mini-Review

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ABSTRACT

Müllerian papilloma of uterine cervix is an infrequently encountered, benign neoplasm simulating the malignant botyroid rhabdomyosarcoma. Of obscure aetiology or pathogenesis, Müllerian papilloma is posited to emerge from anomalous embryological tissue remnants amalgamated during foetal growth and diverse stages of foetal development. Generally asymptomatic, Müllerian papilloma may delineate abnormal vaginal bleeding, spotting and/or vaginal discharge, abdominal pain, pelvic pain, lumbar pain, discomfort, difficulty in micturition or primary infertility in adulthood due to mechanical obstruction of cervix. Neoplasm is comprised of papillary stalks layered by mucinous epithelium with focal squamous metaplasia and an extensively cellular and fibrous encompassing stroma. Tumefaction appears immune reactive to CK7, CA125 or Epithelial Membrane Antigen (EMA). Müllerian papilloma of uterine cervix requires segregation from neoplasms such as botyroid rhabdomyosarcoma, cervical clear cell carcinoma or cervical polyp demonstrating superficial ulceration, haemorrhage or secondary infections. Müllerian papilloma of uterine cervix may be appropriately discerned with competent history and physical examination with pelvic evaluation, abdominal ultrasonography, Computerized Tomography (CT), contrast enhanced computerized tomography or Magnetic Resonance Imaging (MRI) of abdomen and pelvis. Müllerian papilloma of uterine cervix may be appropriately managed with comprehensive, localized surgical extermination of the neoplasm.

Keywords:

Müllerian papilloma, Embryological tissue remnants, Botyroid rhabdomyosarcoma, Computerized Tomography (CT), Magnetic Resonance Imaging (MRI)

Introduction

Müllerian papilloma of uterine cervix is an exceptionally discerned, benign neoplasm simulating the malignant botyroid rhabdomyosarcoma. Müllerian papilloma of uterine cervix is additionally designated as cervical Müllerian papilloma, intramural papilloma of uterine cervix or mesonephric papilloma of uterine cervix.

The infrequent, benign Müllerian papilloma of uterine cervix preponderantly incriminates infants or young females. Asymptomatic instances may be subjected to meticulous observation. Therapeutic intervention with cogent surgical management of the neoplasm is accompanied by excellent prognostic outcomes.

The infrequent Müllerian papilloma of uterine cervix is preponderantly observed in girls between 2 years to 5 years although young girls between one year to 9 years may be incriminated. Generally, the benign, polypoid lesion of cervix or vagina may be discerned within young girls or adult women. Tumefaction arising in childhood may be confined to the vagina.

A specific ethnic or racial predilection or cogent contributory factors are absent. Of obscure aetiology or pathogenesis, Müllerian papilloma of uterine cervix is posited to emerge from anomalous embryological tissue remnants amalgamated during foetal growth and various stages of foetal development. Of Müllerian origin, neoplasm appears confined within superficial segments of uterine cervix or vagina [1,2].

Müllerian papilloma configures a polyp-like lesion confined to the uterine cervix. Generally asymptomatic, tumefaction may induce abnormal vaginal bleeding or vaginal discharge.

Neoplasm may represent as a polyp or an intramural lesion confined to uterine cervix or vagina. Neoplasm represents with vaginal bleeding within female infants (1,2). Majority of neoplasms are asymptomatic. Nevertheless, Müllerian papilloma of uterine cervix may be accompanied by

- Abnormal vaginal bleeding with spotting and/or vaginal discharge
- Enlarged neoplasms may demonstrate symptoms as abdominal pain, pelvic pain, lumbar pain, discomfort or difficulty in micturition [2,3].

The benign Müllerian papilloma of uterine cervix may be misinterpreted as cervical cancer, cervical polyp demonstrating superficial ulceration, haemorrhage or secondary infections and primary infertility in adulthood due to mechanical obstruction of cervix. Besides, the predominantly polypoid tumefaction may undergo mechanical injury with occurrence of torsion or twisting along with excruciating abdominal pain [2,3].

Grossly, polyp-like lesions are <2 centimetre in diameter. Tumefaction may be multifocal and is preponderantly confined to uterine cervix or vagina. Upon microscopy, neoplasm is comprised of papillary stalks layered by mucinous epithelium. Focal squamous metaplasia may be encountered. Circumscribing stroma is extensively cellular and fibrous [3,4].

Neoplasm represents with papillary, glandular or cystic architecture. Papillary or glandular structures are layered

with cuboidal or low columnar epithelium. Neoplastic papillae are encompassed by myxoid stroma incorporated with an inflammatory cell infiltrate and vascular articulations [3,4]. Cellular or nuclear atypia is absent. Mitotic activity is minimal [3,4].

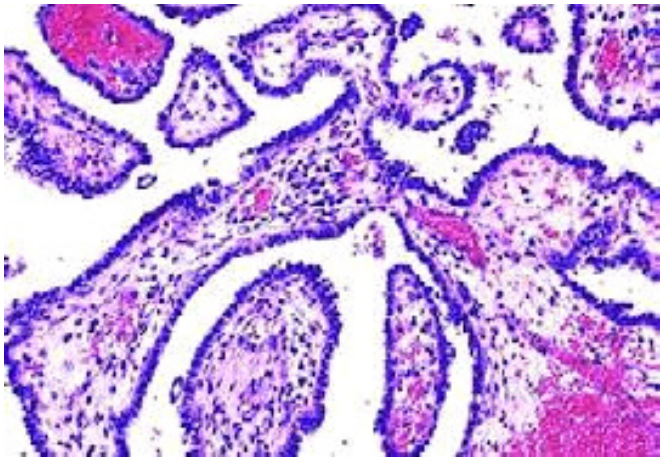

Figure 1: Mullerian papilloma depicting papillary and glandular structures layered by cuboidal to low columnar epithelium circumscribed by a cellular, fibrotic stroma infiltrated by chronic inflammatory cells and vascular articulations.

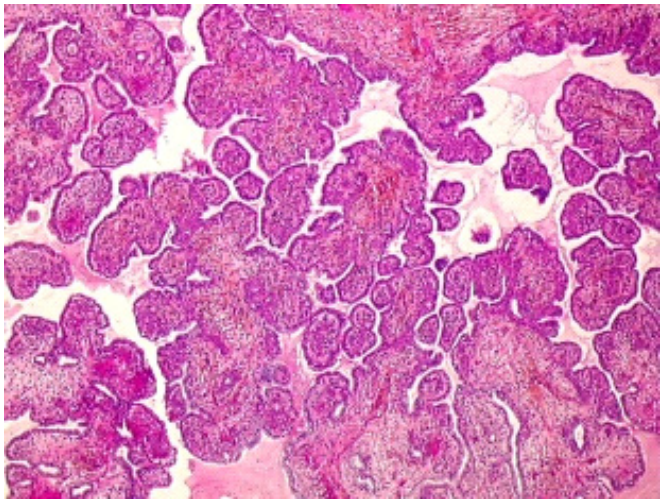

Figure 2: Müllerian papilloma delineating papillary and glandular articulations lined by cuboidal to low columnar epithelium surrounded by a cellular, fibrotic stroma infiltrated by chronic inflammatory cells and vascular articulations.

Embryonic Müllerian duct anomaly is classified as:

Class I: Comprised of uterine agenesis or uterine hypoplasia. Further segregated as:

- Vaginal subtype with uterus appearing as normal or delineating various abnormal configurations
- Cervical subtype
- Fundal subtype
- Tubal subtype
- Combined subtype

Class II: Comprised of unicornuate uterus or unicornis unicollis and represents up to 25% lesions. Further segregated as:

- Subtype demonstrating communicating contralateral rudimentary horn incorporated with endometrium
- Subtype demonstrating non-communicating contralateral rudimentary horn incorporated with endometrium
- Subtype demonstrating contralateral horn and an absence of endometrial cavity
- Subtype with an absent horn

Class III: Comprised of uterus didelphys and represents up to 11% lesions.

Class IV: Comprised of bicornuate uterus and represents up to 39% lesions. Further segregated as

- Subtype with complete division of uterine cavity extending up to external os or bicornuate bicollis
- Subtype with partial division of uterine cavity which may not extend into the internal os or bicornuate unicollis

Class V: Comprised of septate uterus and appears as a commonly discerned anomaly in up to 55% lesions. Further segregated as

- Subtype with complete division of uterine cavity extending into internal os or external os
- Subtype with incomplete division of uterine cavity with incrimination of endometrial cavity and absent involvement of cervix

Class VI: Comprised of arcuate uterus and represents ~7% lesions

Class VII: Comprised of in utero Diethylstilbestrol (DES) exposure with the occurrence of T-shaped uterus [3,4].

Müllerian papilloma of uterine cervix appears immune reactive to CK7, CA125 and Epithelial Membrane Antigen (EMA). Tumour cells appear immune non reactive to CK20, Carcinoembryonic Antigen (CEA) or Smooth Muscle Actin (SMA) [5,6]. Müllerian papilloma of uterine cervix requires segregation from neoplasms such as botyroid rhabdomyosarcoma.

Morphologically, cervical Müllerian papilloma requires segregation from cervical clear cell carcinoma [5,6]. Müllerian papilloma of uterine cervix may be appropriately discerned with

- A competent history and physical examination with pelvic evaluation.
- Ultrasonography of the abdomen.
- Computerized Tomography (CT) or contrast enhanced computerized tomography of abdomen and pelvis which may delineate a well defined tumour mass. Additionally, detailed three dimensional images of diverse viscera may be obtained.
- Magnetic Resonance Imaging (MRI) of abdomen and pelvis may enunciate unhindered images of viscera and various tissues, muscles, nerves or bones along with appropriate delineation of the neoplasm.
- Cervical tissue sampling or comprehensive extermination of Müllerian papilloma of uterine cervix may emerge as a diagnostic and therapeutic manoeuver. The polyp-like lesion necessitates thorough sampling for exclusion of various neoplasms which simulate the polyp-like tumour [5,6].

Benign Müllerian papilloma of uterine cervix may be appropriately managed with comprehensive, localized surgical extermination of the neoplasm. Tumour reoccurrence may

ensue [5,6].

Precise and applicable therapeutic strategies are comprised of

- Asymptomatic lesions may be subjected to simple observation with 'wait and watch' policy
- Complete alleviation may be obtained with surgical intervention and comprehensive excision of the lesion
- Postoperative prudence is necessitated and crucial ~minimum physical activity is recommended in order to ensure appropriate healing of surgical wounds
- Regular monitoring, screening and physical examination for discerning the neoplasm is crucial [5,6].

Surgical intervention may be associated with injury to circumscribing skeletal muscles, peripheral nerves or vascular articulations. Post-surgical infection upon wound site may ensue. Incomplete surgical eradication of the neoplasm may be associated with tumour reoccurrence. Prognostic outcomes are excellent [5,6]. Circumvention of emergence of Müllerian papilloma of uterine cervix remains undefined. However, cogent regular screening with physical examination and relevant scans is recommended [5,6].

Conflict of Interest

The authors declare no conflict of interest.

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