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Shubhangi U Dilpake
Resident, Department of Pathology, Swami Ramanand Teerth Rural Government Medical College, Ambajogai, Maharashtra, India

Sunil Y Swami
Associate Professor, Department of Pathology, Swami Ramanand Teerth Rural Government Medical College, Ambajogai, Maharashtra, India

Corresponding Author:
Shubhangi U Dilpake
Resident, Department of Pathology, Swami Ramanand Teerth Rural Government Medical College, Ambajogai, Maharashtra, India

Papillary squamotransitional cell carcinoma of uterine cervix: A case report

Shubhangi U Dilpake and Sunil Y Swami

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Abstract
Papillary squamotransitional cell carcinoma [PSTCC] is a lesser-known histological subtype of the most common type of cervical squamous cell carcinoma. Papillary carcinomas of the uterine cervix with transitional or squamous differentiation often resembles transitional cell carcinomas of uterine tract. In the literature, PSTCC is underdiagnosed, has late presentation, is more common in post-menopausal age group and has late recurrences. Here we present a case of PSTCC in 40 years female due to its rare occurrence.

Keywords: Cancer, cervix, papillary, squamotransitional

Introduction
Malignancy of cervix continues to be a major health burden worldwide and especially in countries with minimal access to screening tests. The average age at diagnosis is 45 years. Squamous cell carcinoma [SCC] is the common histopathologic type accounting to nearly 90 % of carcinoma cervix cases. The most common variant of SCC is large cell keratinizing SCC. Various less common variant of SCC has been described and include small cell SCC, PSTCC, verrucous carcinoma and sarcomatoid squamous carcinoma [1].
PSTCC can be described as an "in situ" tumour with or without an invasive part but usually with both components existing. Furthermore, it is difficult to distinguish PSTCC from other papillary lesions of the cervix because of its papillary exophytic nature [2].
Hence it becomes necessary to separately identify from the commoner and benign varieties of the cervical papillary lesions like condyloma accuminata and squamous papillomas because of potentially aggressive biological course. The recognition of PSTCC of the cervix is important despite being less common, to demarcate it's clinicopathological features and progress of disease. A high index of suspicion on the part of clinician and an awareness of PSTCC by the pathologist are required to make an accurate diagnosis [3].
The tumor has a distinctive papillary growth pattern, tends to invade deeply, and has a propensity for late metastasis and late recurrence [4].

Case Report
A 40-year-old-female patient presented to hospital with complaining of foul-smelling white discharge per vaginum for 6 months associated with low back pain and lower abdominal pain for 4 months. We received a total abdominal hysterectomy specimen with cervical mass to our department. On gross [Fig. 1], cervical mass of size 3 x 2.5 cm extending to lower uterine segment and grey-white smooth cut surface was noted. Microscopically [Fig.2], showed tumor arising from ectocervix in the form of papillary folds composed of fibrovascular cores lined by multilayered atypical epithelial cells resembling transitional type epithelium. Individual cells showed moderate to severe atypia in the form of pleomorphism, anisonucleosis, hyperchromatism and increased nuclear cytoplasmic ratio. Mitoses were observed in the range of 1- 2 to 4- 6 per high power field (HPF). The tumor also showed clear-cut evidence of stromal invasion in the form of tiny nests groups and sheets. Areas of hemorrhage and necrosis were not seen in present sections. Immunohistochemistry [IHC] revealed immunostaining positive for p53 [p53+], focal moderate positive for CK7 [CK7+], 70-80 % positive for Ki67 [Ki67+] and negative for CK20 [CK20$^-$].

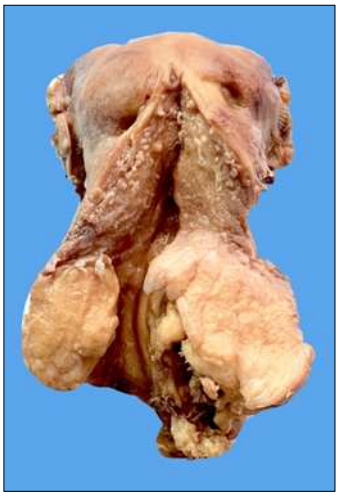

Fig 1: Gross: Cervical mass of size 3 x 2.5 cm with grey-white homogenous cut surface.

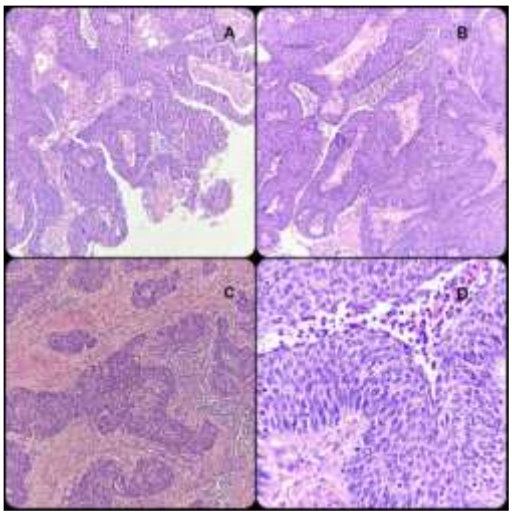

Fig 2: [A, B, C]: Microscopy: showed tumor tissue arranged in papillary folds composed of fibrovascular cores lined by multilayered atypical epithelial cells resembling transitional type epithelium with evidence of stromal invasion in the form of tiny nests groups and sheets. [H&E: 10X] [C]: Individual tumor cells showed severe atypia in the form of pleomorphism, anisonucleosis, hyperchromatism and increased nuclear cytoplasmic ratio. Mitoses were observed in the ranged of 1-2 to 4- 6 per HPF. [H&E: 40X].

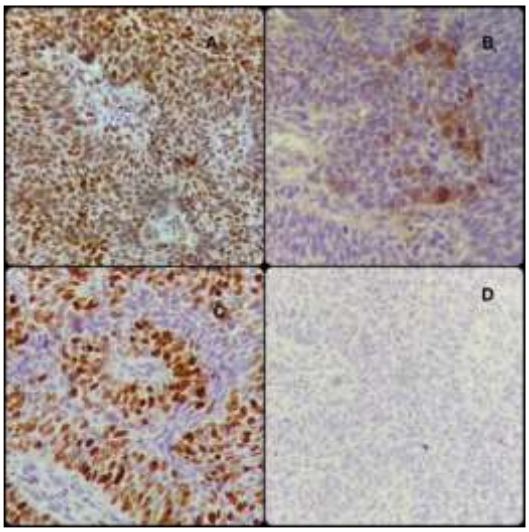

Fig 3: Immunohistochemistry [IHC]: [A]: revealed immunostaining positive for p53, [B]: focal moderate positive for CK7, [C]: 70-80 % positive for Ki67 and [D]: negative for CK20.

Discussion

Papillary cervical lesions were first described in 1952 by Marsh. Papillary carcinoma of the cervix with transitional or squamous differentiation are rare tumors often resemble transitional cell carcinoma of the urinary tract. Randell *et al*. presented 9 cases of papillary squamous carcinoma of cervix and defined pathologic criteria for diagnosis: full thickness dysplastic cells in a papillary architecture with fibrovascular cores and the invasive component that is usually deep to the papillary excrescences. Original data suggested that PSCC behaves clinically like traditional squamous cell carcinoma. Recently the disease has been suggested to be less aggressive than typical SCC [5].

Koenig *et al*. Studied 32 cases of PSTCC cervix. They divided them into three groups: (1) Predominantly squamous (28.2%), (2) mixed squamous and transitional (50%) and, (3) predominantly transitional (21.9%). Histopathologically papillary architecture with fibrovascular cores lined by multilayered, atypical epithelium resembling high-grade squamous intraepithelial neoplasia of the cervix was found in all cases [3].

PSCC grows in an exophytic fashion making the diagnosis of stromal invasion on routine biopsies difficult; invasion is only diagnosed in 50- 60% of cases with superficial biopsies. PSCC is often confused with squamous cell carcinoma in situ. Invasion can appear as nests at the base of the lesion, and in some cases the actual papillae may invade. PSCC lesions without stromal invasion should be treated clinically as cancer according to the corresponding critical stage [5].

The differential diagnosis includes CIN3 with papillary configuration, condyloma, squamous papilloma; or transitional cell carcinoma, endometroid adenocarcinoma, papillary serous carcinoma and well-differentiate villoglandular (papillary) adenocarcinoma. Papillary immature metaplasia (PIM) is a distinctive exophytic lesion of the uterine cervix which shares some histomorphology features with PSCC. PIM shows characteristic filiform papillae, with immature squamous epithelium retaining the mucus cells on the surface of the papillae. The individual cell shows mild nuclear atypia and infrequent mitotic figures. In contrast, PSCC shows narrower and longer fibrovascular cores with more diffuse and marked cytological atypia and pleomorphism. Ki-67 labelling index and p53 expression are much higher in PSCC as compared to PIM [4].

Al- Nafussi and Al -Yusif, in their study, concluded that papillary SCC has a propensity for late metastasis and local recurrence even though histologically it could be misinterpreted as CIN3 with a papillary configuration or as a squamous papilloma [3].

In the literature, the clinical behavior of PSTCC is characterized as almost the same as that of SCC, except for the tendency of PSTCC towards the metastasis and local recurrence [2].

Cervical transitional (SCC) cells have different staining patterns (CK7+/CK20-). This differentiates urinary tract metastasis from transitional cell variant of SCC [3].

Koenig *et al*. suggested that the vast majority of PSCC's display with cytokeratin profile of squamous cell carcinoma of the cervix (i.e., $CK7^{+}/CK20^{-}$) in contrast to transitional cell carcinoma of bladder (CK7+/CK20+). One of the cases of squamous cell carcinoma of the urinary bladder in their study also lacked CK20 expression suggesting that loss of CK20 immunoreactivity parallels the loss classic transitional

features, and development of squamous differentiation in transitional cells, a finding also noted by Moll *et al*. [4]

In the study by Drew *et al*. [8] cases were immunoreactive for p53 and uroplakin III was negative in 14 cases. The molecular biology of tumor suppressor gene p53 has been thoroughly elucidated in the development of cervical carcinoma. More than 95% of cervical carcinomas are associated with HPV infection. The virus produces the E6 oncoprotein, which binds to p53 and facilitates its degradation. This leads to a state of p53 dysfunction similar to p53 mutation in other tumors. In the study by Mirhashemi *et al*., three out of twelve cases of PSCC stained positive for p53 [4].

Finally, the growth fraction of PSCC was assessed using the proliferation markers Ki-67. Ki-67 antibody (MIB-1) reacts with nuclear non-histone protein and reflects the growth fraction of the tumor. In the study of Mirhashemi *et al*. eight out of twelve PSCC's displayed high proliferative activity. Similar results were obtained in the present study, with two cases showing moderate and seven cases showing high proliferative activity.

Ki-67 and p53, will help us to distinguish PSCC from transitional cell carcinoma and other borderline papillary lesions of the uterine cervix; and predict its biological behavior as well [4].

Conclusion

In conclusion, PSTCC has been reported to represent 1.6% of all cancer cervix [5]. It is a very distinct histologic variant associated with an aggressive biological behavior. They tend to recur locally or even metastasize over a longer period [3]. Further studies are required to recognize to etiologic factors, prognostic factors, factors responsible for long term recurrence. Treatment approach remains same as SCC or adenocarcinoma of cervix. Need for long term follow-up to identify early recurrent lesions [1].

References

1. Anusha M, Anuradha P, Praveen Kumar M, Lohith G. Papillary Squamo-transitional Cell Carcinoma. Canc Therapy & Oncol Int J 2018;10(4):555792.
2. Georgios Gitas, Kubilay Ertan, Achim Rody, Sascha Baum, Dimitrios Tsolakidis, Ibrahim Alkatout. Papillary squamotransitional cell carcinoma of the uterine cervix: a case report and review of the literature. Journal of medical case reports 2019;13:319.
3. Anant M, Singh A, Singh VY. Papillary Squamotransitional Cell Carcinoma Cervix: A Rare Variant. J South Asian Feder Menopause Soc 2017;5(2):142-144.
4. Anand M, Deshmukh SD, Gulati HK. Papillary squamotransitional cell carcinoma of the uterine cervix: A histomorphological and immunohistochemical study of nine cases. Indian J Med Paediatr Oncol 2013;34:66-71.
5. Turker LB, Gressel GM, Abadi M, Frimer M. Papillary squamous cell carcinoma of the cervix: Two cases and a review of the literature. Gynecologic Oncology Reports 2016;18:18-21.