

Papillary Poroid Hidradenoma: A Distinct Histopathological Entity A Rare Case Report

DRAVID NV¹, GADRE AS², DAMLE RP³, BAGALE PS⁴, SURYAWANSHI KH⁵

ABSTRACT

Papillary poroid hidradenoma is a very rare entity which belongs to poroid neoplasms, which represents 10% of sudoriferous tumours. It can be easily misdiagnosed as a malignant neoplasm. A 34-years-old male presented with an asymptomatic mass over the right chest wall, below the nipple, of 18 months duration. Clinical examination revealed tense cystic swelling which revealed hypoechoic and solid components on imaging. Clinically, a malignancy was suspected and a surgical excision was done. Histology and immunoreactivity to pan cytokeratin, epithelial membrane antigen and carcino- embryonic antigen confirmed the diagnosis. We are reporting this case because of the rarity of its presentation.

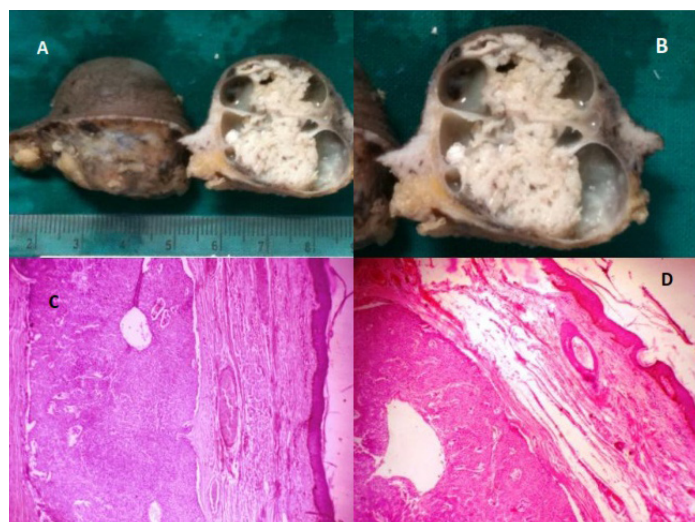
Keywords: Papillary structures, Malignant transformation, Immunoreactivity

CASE REPORT

A 34-years-old male presented with a mass over the right chest wall, below the nipple, of 18 months duration. Physical examination revealed a tense, cystic, painless swelling of size, 5 cm. Transillumination was positive. Chest ultrasound revealed a heterogeneous mass with anechoic and cystic components, with mild vascularity. CT-scan showed a subcutaneous mass which presented dual solid and cystic components. A clinical diagnosis of a cyst with malignancy was suspected. A total surgical excision was performed and the mass was submitted for a histopathologic examination.

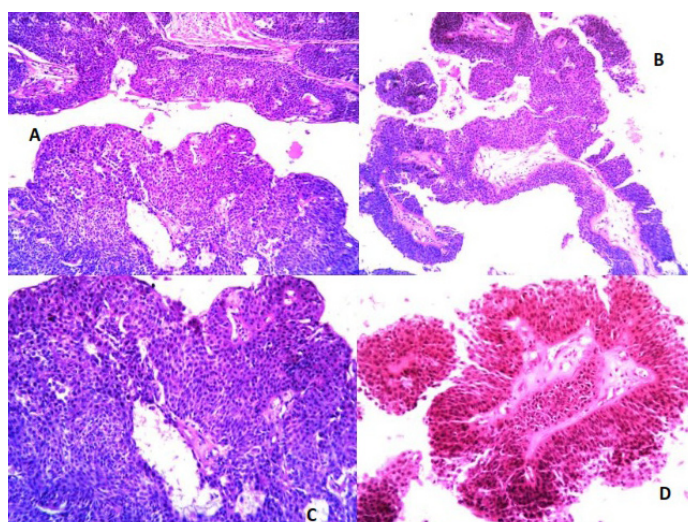
Gross examination revealed a skin covered, well-circumscribed, fluctuant mass which measured 5cmx5cmx3cm. The cut surface showed a variegated appearance with a multilocular cystic lesion which was filled with mucoid cloudy fluid and solid papillary areas. The multilocular cystic areas showed intracystic papillary fronds of tumour. The tumour was greyish white in appearance. The lower border revealed subcutaneous fat. The stretched shiny skin on the external surface and around the tumour did not reveal hair [Table/Fig-1A,1B]. Histology revealed a well-circumscribed, solid-cystic

epithelial lesion which was composed of multiple papillary structures with large stalks. The lesion was confined to the dermis, with no connection with the overlying epidermis [Table/Fig-1C,1D]. The tumour showed multiple papillae which revealed large eosinophilic cuticular cells and monomorphous poroid cells. The pleomorphic cuticular cells showed vacuolar spaces in the cytoplasm, which were akin to an early ductular differentiation. The ductular structures which were surrounded by cuticular cells showed lining of eosinophilic cuticle [Table/Fig-2]. Few multinucleate cells with distinct nucleoli were evident. The poroid cell component revealed monomorphous dark staining nuclei and bland cytoplasm. Few tumour nests showed peripheral palisading. There was no evidence of increased mitoses or necrosis. PAS stain showed PAS positive deposits along the cuticular luminal border of ductal structures. Glycogen granules were evident in both types of tumour cells. Immunohistochemistry showed that a majority of the smaller poroid cells were positive for Cytokeratin (PanCK, CK7 and CK14) and Epithelial membrane antigen (EMA). Groups of the larger cuticular cells showed positive cytoplasmic staining for EMA, PanCK and CK7 [Table/Fig-3,4]. The patient was discharged, with no complications. The surgical wound healed in 2 weeks, with normal scarring.

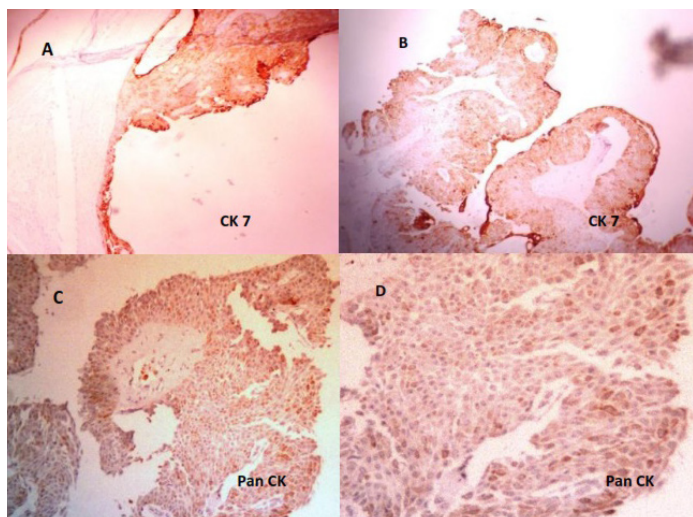


[Table/Fig-1]: A & B: Tumour showing solid papillary structures and cystic spaces, exuberant papillary pattern (B)

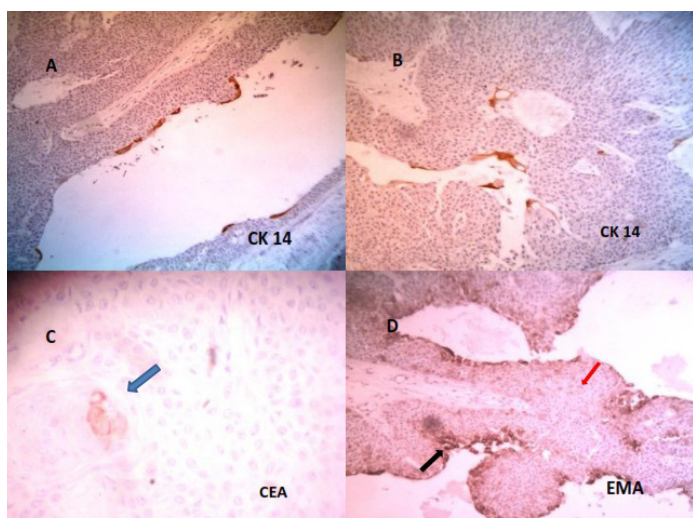
Fig 1-C & D : Tumour confined to the dermis showing solid pattern (H & E, X100)



[Table/Fig-2]: H & E: Solid cystic lesion with multiple papillae showing large eosinophilic cuticular cells and monomorphous poroid cells



[Table/Fig-3]: IHC: Smaller poroid cells and larger cuticular cells showing CK7 & PanCK positivity & along cyst border and papillary surface cells in B & D (arrow)



[Table/Fig-4]: A & B: Cuticular cells positive for CK14, C: Focal CEA positivity in cuticular cells, D: EMA positivity in poroid (red arrow) & cuticular (black arrow) cells

DISCUSSION

Poroid hidradenoma (PH) has been recently recognized as a variant of a poroid neoplasm [1-4]. It has a morphology which is intermediate to that of a poroma and a hidradenoma. PH rarely becomes malignant in less than 1% of the cases [1]. The age of presentation varies from 28 to 77 years, with a peak incidence in the 7th decade [2]. Its incidence is approximately equal in males and females.

Poroid cells have been identified as keratinocytes of the lowermost acrosyringium and the sweat duct ridge [2,5,6]. Papillary variant of poroid hidradenoma (PPH) appears as a rare isolated case report [3]. Similar findings which were seen in our case corroborated the

rarity of PPH, present case being the second one which has been reported. Poroid hidradenomas are seen mostly in the extremities, the head and neck, and vulva [1,2,6,7]. Its occurrence on the chest wall in our case suggested that there was no site of predilection for this rare tumour. As has been seen in other studies, in our case, IHC in the poroid cells was positive for CK (PanCK, CK7 and CK14) and cuticular cells reacted with CK7 [3]. Both the poroid and cuticular cells in our case were positive for EMA, suggesting a close relationship between eccrine poroma and poroid hidradenoma. This confirmed that poroid hidradenoma was a type of poroma [3,6,8]. CEA positive cells seen adjacent to cystic spaces have been implicated to cause cyst formations in cases of poroid hidradenomas [1].

Our case fulfilled morphological criteria for PH, as has been already described [1-7]. Its immunohistochemical profile suggested that it was closely related to a poroma [2,3,5,6] and that it kept with an eccrine derivation. A quite unusual finding was the prominent papillary architecture, which expanded the spectrum of growth patterns [3]. Prognosis of PPH is good and recurrence has been reported in only one case [9]. Making a diagnosis of PPH by histopathology and IHC avoids its misdiagnosis as a malignant neoplasm [10].

CONCLUSION

Papillary Poroid hidradenoma is the newest rare subtype of a poroid hidradenoma. Histologic characteristics may be challenging, thus necessitating a thorough sampling. Rarity of this tumour is corroborated by present case being the second one in the literature which was confirmed by IHC. Treatment is based on surgical resection, in order to prevent a possible recurrence or a rare malignant transformation.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Sep 12, 2013**

Date of Peer Review: **Dec 17, 2013**

Date of Acceptance: **Jan 15, 2014**

Date of Publishing: **Mar 15, 2014**