

Solitary extramedullary plasmacytoma of the penis

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Abstract Solitary extramedullary plasmacytomas are rare plasma cell malignancies, particularly outside the upper aerodigestive tract. A 90-year-old male presented with a penile mass suspicious for penile carcinoma. Pathology revealed the tumor to be an Epstein-Barr virus-associated plasmacytoma with no radiographic evidence of bone or other soft tissue involvement. There was no laboratory evidence of multiple myeloma.

Key Words: Epstein-Barr virus, penile cancer, penis, plasmacytoma

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INTRODUCTION

A 90-year-old male presented with a penile mass suspicious for carcinoma. Pathology revealed the tumor to be an Epstein-Barr virus associated plasmacytoma with no evidence of bone or other soft tissue involvement. This report describes the first known case of this specific tumor type to manifest in the penis.

CASE REPORT

A 90-year-old male with no prior history of cancer presented with a penile mass at the dorsolateral coronal sulcus. Past medical history included blindness and dementia. An ulcerated, indurated mass was noticed by his son while he assisted the patient with toileting. On examination, the mass was noted to be firm and ulcerated with a classic appearance of penile carcinoma. Bilateral shotty inguinal lymphadenopathy was present. An intraoperative biopsy was consistent with invasive carcinoma and penectomy and perineal urethrostomy were performed.

Surprisingly, final pathology revealed infiltrative, atypical plasmacytoid cells [Figure 1a]. Immunohistochemical and *in situ* hybridization led to the diagnosis of a plasma cell neoplasm, with positive staining for multiple myeloma oncogene 1 (MUM-1), syndecan 138 (CD-138), monotypic kappa light chain, and Epstein-Barr virus-encoded ribonucleic acid (EBER) [Figure 1b-d]. EBER positivity raised the differential diagnosis of Epstein-Barr virus (EBV)-associated plasmacytoma or myeloma versus plasmablastic lymphoma. Morphological findings of mostly well-differentiated plasma cells with enlarged nuclei and prominent nucleoli were most consistent with the diagnosis of EBV-associated plasmacytoma.^[1]

Serum protein electrophoresis with immunofixation did not identify a monoclonal protein. The serum-free light chain assay had a normal kappa to lambda ratio. Hemoglobin, ionized calcium, serum albumin, and renal function were normal. Computed tomography examination of the chest and abdomen showed no medullary or other extramedullary involvement, although the patient's surrogate decision maker declined skeletal survey and bone marrow biopsy.

DISCUSSION

Solitary extramedullary plasmacytomas account for approximately 2% of plasma cell malignancies and 80% involve the upper aerodigestive tract.^[2,3] These neoplasms are twice as

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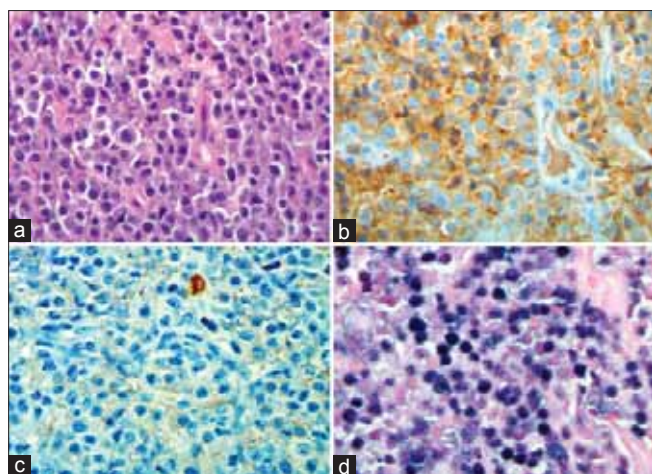


Figure 1: Histopathological findings (x400) (a) Hematoxylin- and Eosin-stained sections show infiltrative sheets of a typical plasmacytoid cells. kappa and (b) lambda (c) light chain immunohistochemistry shows kappa light chain restriction, consistent with a monoclonal process (d) *In situ* hybridization for Epstein-Barr virus-encoded RNA shows diffuse positivity

common in men as in women. A solitary plasmacytoma is an exquisitely rare tumor of the penis with one other case reported involving a non-EBV-associated plasmacytoma presenting as a violet-colored plaque on a 79-year-old man with history of chronic lymphocytic leukemia.^[4] EBV positivity in this case might be related to age-associated immunosenescence predisposing to an increased risk of developing EBV-associated

lymphoproliferative disorders in the elderly.^[5] However, EBV positive plasmacytomas are exceedingly rare.^[1]

This report of a penile plasmacytoma that was clinically and pathologically suspicious for invasive carcinoma further warrants consideration of plasmacytoma in a patient with penile mass.

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