CLINICAL VIGNETTE

Identification of Muir-Torre Syndrome in a Patient with HIV/HBV Coinfection

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Muir Torre Syndrome (MTS) is a rare variant of hereditary non-polyposis colorectal cancer (HNPCC), an autosomal dominant syndrome characterized by a predisposition to colorectal cancer and associated tumors usually attributed to germline mutations in DNA mismatch repair (MMR) genes.[1,2] MTS presents as at least 1 sebaceous neoplasm prior to or following 1 HNPCC-related visceral malignancy, most often colorectal or genito-urinary cancer. MTS is found in about 9% of patients with HNPCC, which occurs in 1 of 350 people in the general population.[1] Also rare, sebaceous carcinoma (SC) is a malignant tumor of the sebaceous gland, presenting as a pinkish or yellow nodule, with an overall incidence rate of 2 cases per 1 million persons per year, with only 7% of cases presenting on the trunk/extremities.[2,3]

A male in his 50's presented with multiple papules on the trunk and extremities, which had developed over 2 years. He was infected with Human Immunodeficiency Virus (HIV) and hepatitis B virus (HBV) and on antiretroviral therapy. Medical history included diagnosis of colon cancer at age 30 and recurrence at age 31, for which a colectomy and ileostomy were performed. At age 32, patient was diagnosed with non-Hodgkin lymphoma and treated with 2 rounds of chemotherapy and radiation. Within the last 3 years, he was also diagnosed with squamous cell carcinoma on the nose, arm, and tongue, which were all excised. Family history was positive for colon cancer and squamous cell carcinoma. Physical examination revealed numerous yellow 2-6 mm papules on the chest, back, arms, and legs with the largest lesion (6 mm) on the left mid back appearing red and irritated (Figure 1A). Shave biopsy was performed. Histopathology (Figures 1B and 1C) showed atypical foamy cells with sebaceous differentiation and atypia with few mitoses, consistent with well-differentiated SC. Immunohistochemistry staining, recommended for patients less than 60 years old presenting with non-head and neck sebaceous tumors, was negative for MSH2 (Figure 2) and MSH6 and positive for MLH1 and PMS2.[4]

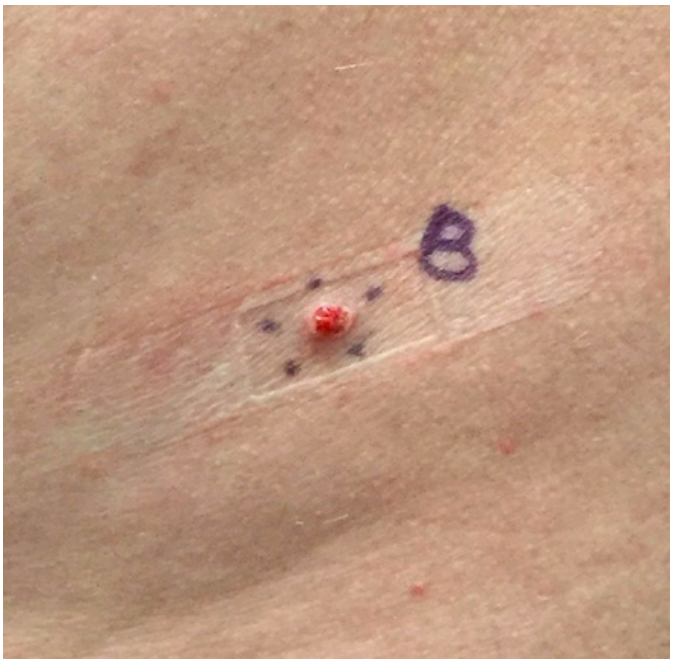

Figure 1A

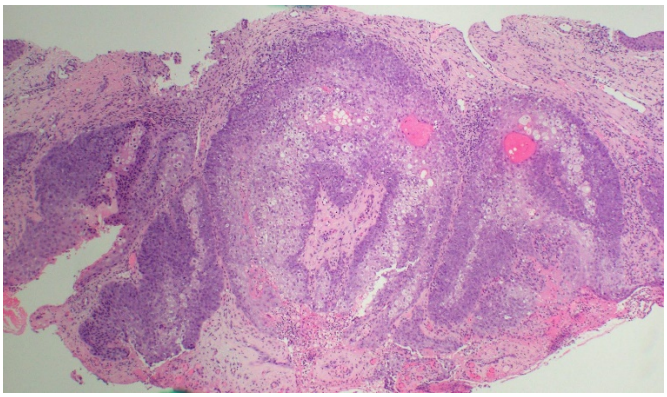
Figure 1B

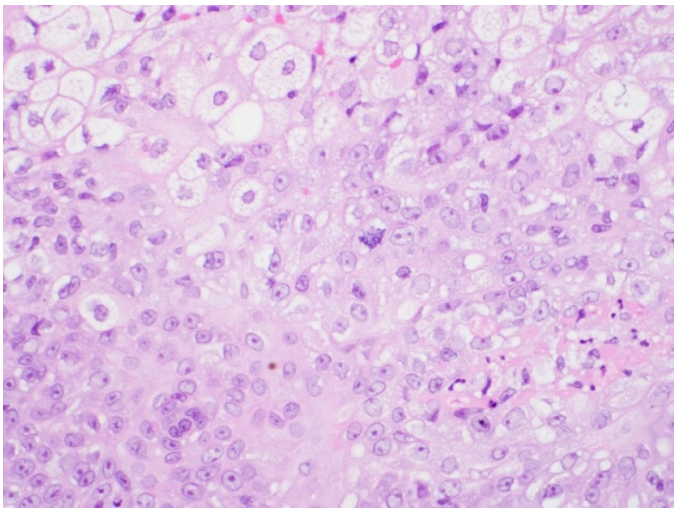

Figure 1C

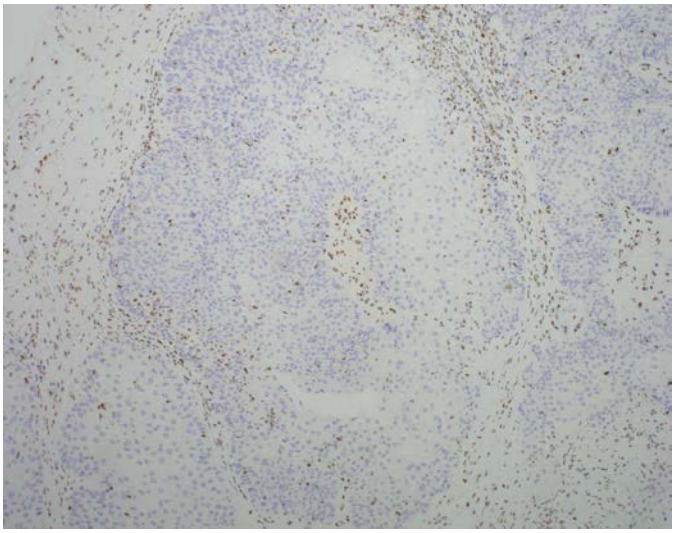

Figure 2

Following a primary colon cancer diagnosis, the risk of subsequent SC increases 3-fold; however, when the primary malignancy is colon cancer before the age of 50 years, relative risk of SC increases 60-fold, consistent with a genetic predisposition.[2] Concern of a genetic syndrome prompted genetic testing, which was positive for a pathogenic mutation in the MSH2 gene. With over 90% of MTS cases having a defect in the MSH2 gene, compared to HNPCC without this phenotype, MTS was confirmed.[5] Treatment for SC involves local excision of the malignant lesion with 5-6 mm clear margins or Mohs micrographic surgery.[1] Patient underwent excision of the SC with clear margins and was recommended for genetic counseling and regular screenings for stomach, colorectal, prostate, and skin cancers.

Like HNPCC, MTS is a rare genetic syndrome with a predisposition to colorectal cancer usually attributed to germline mutations in DNA mismatch repair genes.[1] To our knowledge, this is the first reported case of MTS confirmed via genetic testing in a coinfected HIV/HBV patient. One prior case was reported of an extraocular SC in a 46-year-old HIV/HBV coinfection patient, though no history of HNPCC cancer was reported.[6] Case reports of MTS in HIV infected patients are rare, with only one involving SC, specifically a large extraocular SC is a 48-year-old HIV infected colon cancer survivor, though genetic testing to confirm MTS diagnosis was not performed.[7] Reported cases of SC in HIV infected patients are also rare but include ocular SC in 2 patients in their 30s, a fast-growing facial SC in a 42-year-old patient, and a giant truncal SC in a 45-year-old patient.[8-10] While case reports like these of SC in patients with HIV have been published, they have not reported on a history of HNPCC malignancies making it difficult to determine MTS.

Within 3 months of diagnosis, the current patient presented with additional extraocular facial and truncal neoplasms, 3 of which were identified as SC. Prior authors have theorized that HIV-related immunosuppression may be a factor in SC and that coinfection with other viruses offers a possible explanation for SC in younger HIV infected patients.[8-10] It has also been suggested that a latent MTS phenotype may be unmasked in immunocompromised patients, for whom skin malignancies may present younger.[1,5] Therefore, for immunocompromised patients, particularly those with personal or family history of HNPCC-related cancers, regular and early screenings for both skin and internal malignancies is vital. This is especially important given extraocular SC has been associated with elevated risk for various cancers and possible increased mortality.[2,3] This patient recently reported being diagnosed with squamous cell carcinoma on the lung, which was treated with 5 rounds of radiation. Dermatologists play an important role in early detection of SC and possible MTS, especially critical in HIV/HBV infected, immunocompromised, and early-onset cancer patients for whom MTS may be unmasked, SC may present younger, and extraocular SC may be an indicator of increased risk for future cancers.

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