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A case report on Muir -Torre syndrome in a male with colon cancer and sebaceous carcinoma of right upper lid

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Abstract

Introduction: Muir-Torre syndrome (MTS) is a rare, autosomal dominant, genetic condition characterised by occurrence of sebaceous tumors and visceral malignancies. The most common visceral malignancy associated with Muir Torre syndrome is colorectal carcinomas. The internal malignancies can occur many years before or after the skin lesions. The syndrome is characterised by defects in DNA mismatch repair gene. Mutations may arise in either the MSH2 or MLH1 gene.

Case: In this article, we present the case of a 52 year old male who was diagnosed with colorectal carcinoma at 45 years of age, he underwent hemicolectomy followed by chemotherapy for the same. Histopathology of excised colonic segment was suggestive of adenocarcinoma. The patient then complained of gradual onset, painless progressive swelling over right upper lid since 6 months for which he underwent an incisional biopsy. Histopathology report suggestive of sebaceous carcinoma Immunohistochemistry showed expression of MLH1and PMS2 on tumor cells. Patient underwent upper lid mass excision with reconstruction of upper lid with Cutler Beards flap procedure. Histopathology of excised mass was suggestive of sebaceous carcinoma. No recurrence has been noted so far.

Conclusion: Muir Torre syndrome is a rare disorder with only 200 cases reported so far. However, a patient diagnosed with sebaceous tumor should be screened for visceral malignancy. The family members should also be screened for visceral malignancy

Keywords: Colon cancer, Cutler beards flap, Eye Lid tumor, Muir torre syndrome, Sebaceous adenoma

Introduction

Muir-Torre syndrome is an autosomal dominant genodermatosis characterized by the presence of at least one sebaceous gland tumor and a minimum of one internal malignancy.(1) The most common visceral malignancy associated with Muir Torre syndrome is colorectal carcinomas. The syndrome is characterised by defects in DNA mismatch repair gene. Mutations may arise in either the MSH2 or MLH1 gene.(2,3) The internal malignancies can occur many years before or after the skin lesions. Timely diagnosis can help in screening and surveillance of patients and their families.(4) We present here a case report on Muir Torre syndrome.

Case Report

A 52 year old male patient came to our out patient department with complaint of mass over right upper lid since the past 6 months. The mass was initially of the size of pea which gradually increased to the size of an almond at the time of presentation. This was not associated with pain, discharge or bleeding from the mass. Not associated with diplopia or restriction of extraocular muscle movements. Upon asking further the patient revealed that he underwent a colonoscopy 7 years ago followed by a laproscopic hemicolectomy for colon carcinoma. Histopathology report of the excised part of colon showed features of adenocarcinoma. The patient took chemotherapy for one year following hemicolectomy. Family history was not contributory. Family members were also screened to rule out malignancies of colon. No evidence of tumor amongst family members.

Ocular examination: The palpebral fissure was narrower on the right side measuring 28*5mm where as on the left side it was 29*9mm.

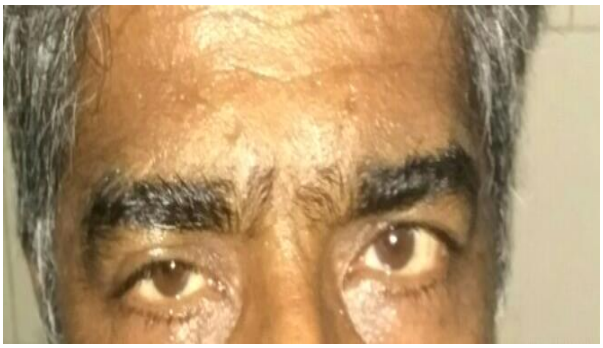
On examination the mass was about 6*4*3 mm on the inner surface of the lid, involving the middle third of the lid, about 1mm above the lid margin. It was nodular in appearance, firm in consistency and non-tender.

Lid and adnexa of left eye appeared normal

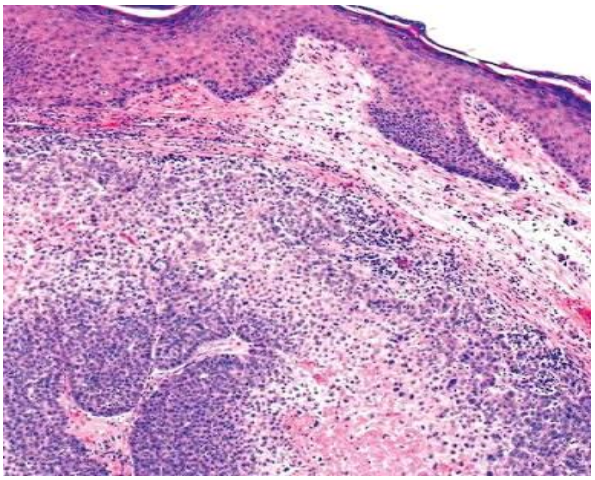
Best corrected visual acuity of both eyes was 6/6, N6

Both eyes were phakic with normal anterior segment on slit lamp examination, pupils normal single circular, reacting to light with both direct and consensual light reflex. Both eyes posterior segment was normal as examined by an indirect ophthalmoscope.

Extra ocular muscle movements were full range in all directions.

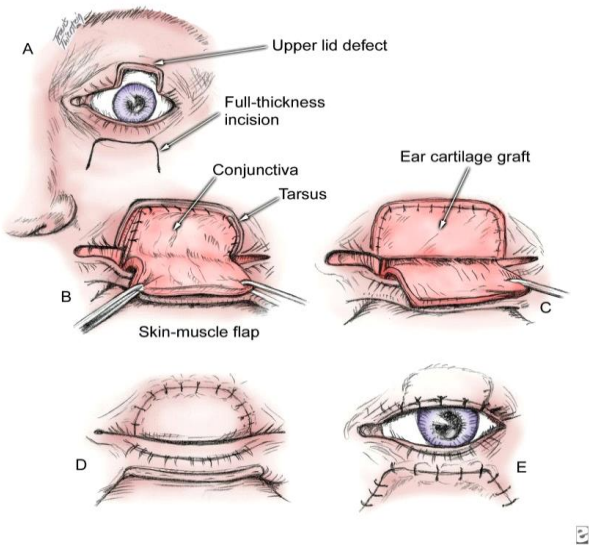


Investigations: MRI brain and orbit (plain and with contrast) was suggestive of well demarcated enhancing lesion on the right upper lid abutting the cornea measuring 8*5*8mm. No obvious extension in intraconal or extraconal compartments.



An incision biopsy of the mass was performed. Histopathology report was suggestive of sebaceous carcinoma. Immunohistochemistry showed expression of MLH1and PMS2 on tumor cells.

Treatment: The patient then underwent upper lid mass excision with reconstruction of upper lid with Cutler Beards flap procedure. Full thickness excision of lid was performed keeping 4mm margin along all side of tumor mass. Frozen section biopsy confirmed margin free of tumor cells. The defect left in the upper lid (2.5*2cm) was reconstructed with a full thickness lower lid flap and right conchal cartilage using Cutler Beards reconstruction technique. The flap was divided after 6th week to form the upper and lower lid margins. Histopathology of the excised mass was suggestive of Sebaceous carcinoma. No recurrence has been noted so far.



Discussion

Muir-Torre syndrome (MTS) is the combination of neoplasms of the skin (usually sebaceous adenoma, sebaceous epithelioma, or sebaceous carcinoma) and a visceral malignancy (usually colorectal, endometrial, small intestine, and urothelial). [1]

Muir-Torre syndrome (MTS) is a rare disorder,[5] with approximately 200 patients reported. MTS occurs in both sexes, with a male-to-female ratio of 3:2, with a median age of 53 years at the time of presentation. [6]

Clinical presentation: MTS has an autosomal dominant pattern of inheritance in 59% of cases and has a high degree of penetrance and variable expression. A positive family history of Muir-Torre syndrome (MTS) can be found in roughly 50% of patients. There is an association with a family history of colon cancer, particularly in patients younger than 50 years.[1,7]

Cutaneous sebaceous neoplasms can precede or follow a diagnosis of visceral malignancy.[8]

Sebaceous adenoma is the most characteristic marker of MTS.[9] These fairly rare, benign tumors usually appear as yellow papules or nodules in adult patients. Sebaceous carcinomas most commonly occur on the eyelids, where they generally arise from the meibomian glands and the glands of Zeiss. Clinically, these lesions are often mistaken for chalazia, chronic blepharoconjunctivitis, or carbuncles.[10]

The most common visceral neoplasm in MTS is colorectal cancer, occurring in almost one half of

patients. The tumors are usually proximal to the splenic flexure. The second most common site is the genitourinary tract, representing approximately one quarter of visceral cancers. A wide variety of other cancers, including breast cancer, ovary, salivary gland tumors, and hematological malignancies have also been reported.[11]

Pathophysiology: This condition is associated with an inherited defect in one copy of a DNA mismatch repair gene (MMR), which leads to microsatellite instability.[12] The 2 major MMR proteins involved are hMLH1 and hMSH2. Approximately 70% of tumors associated with the MTS have microsatellite instability. Other genes are *MSH-6*, *MLH-3*, and *PMS-2*.[13] Loss of 2 of the retinoid receptors (RXR-beta and RXR-gamma) seems apparent in sebaceous carcinoma.[14]

Medical Care: Oral isotretinoin can possibly prevent some of the neoplasms in persons with Muir-Torre syndrome (MTS).[15] A dosage of as much as 0.8 mg/kg/d may be effective. Combination interferon with retinoids may be of promise to prevent cutaneous tumor development in persons with MTS.[16]

Surgical Care: Benign sebaceous tumors and keratoacanthomas can be conservatively treated with excision or cryotherapy. Sebaceous carcinoma should be excised completely and followed-up for detection of possible metastases.

Long-Term Monitoring: Patients with Muir-Torre syndrome should have regular complete examinations, particularly of the gastrointestinal and genitourinary tracts.[17] Sebaceous carcinoma is an aggressive neoplasm, which can recur locally after excision and can metastasize. Follow-up care for recurrence or metastasis is mandatory.

Conclusion

Muir Torre syndrome is a rare disorder with only 200 cases reported so far. However, a patient diagnosed with sebaceous tumor should be screened for visceral malignancy. The family members should also be screened for visceral malignancy. Timely diagnosis can help reduce morbidities associated with these rare malignancies.

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