

Cutaneous Myiasis In Basal Cell Carcinoma (Bcc) - A Rare Presentation Of Common Malignancy

Dr. Santhalakshmi. S¹, Dr. Ashok Swaminathan G², Dr. Shanmugam.V.U³, Dr. Balaji Swaminathan⁴, Dr. Ruta Shanmugam⁵, Dr. Choudhary C.S.⁶, Dr. Prakash P.G.⁷

¹Post Graduate, ²Associate Professor (Plastic Surgery), ^{3,4}Professor, ⁵Professor and Head, ⁶Assistant Professor, ⁷Senior Resident, Department of ENT, Government Cuddalore Medical College and Hospital, Annamalai nagar, Chidambaram.

***Corresponding Author:**

Dr. Ruta Shanmugam

Professor & Head, Department of ENT, Government Cuddalore Medical College and Hospital, Annamalai Nagar, Chidambaram

Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Myiasis is the infestation in live vertebrates (humans and /or animals) by larvae of different fly species and it is more common in tropical areas. We present a 80 years old female farmer who presented to our casualty with painless swelling and ulcer over left ala and dorsum of nose. There was foul smelling discharge from the ulcer with a cluster of maggots with surroundings facial cellulitis. Later this lesion was found to be basal cell carcinoma. Appropriate investigation and management (wide local excision with skin graft) was done. Patient was improved markedly. Patient was followed up for one year and there was no recurrence of disease. The unusual presentation of our case demonstrates the importance of good self-hygiene, good diabetic control and sanitation in tropical areas with higher population of flies and emphasizes the need to take adequate measures to control the occurrence of myiasis. Early diagnosis and management will reduce the physical and psychological burdens of delayed treatment.

Keywords: Basal cell carcinoma, myiasis, wide local excision with skin graft

Introduction

Malignant skin cancers are increasing in the current era because of modifying life style and varied reasons. Among the skin cancers, Basal Cell Carcinoma (BCC) is most common low grade, locally invasive, non-melanotic skin cancer. It accounts for 75% of all skin cancer^[2]. About 80% of all Basal Cell Carcinoma (BCC) occur on the face, of these tumours 25% are found on the nose^[5]. Myiasis is infestation in live vertebrates (humans and /or animals) by larvae of different fly species. As of now limited cases of myiasis have been reported in cutaneous malignancies. We present a rare case of cutaneous myiasis in basal cell carcinoma (BCC) lesions over dorsum of nose.

Case Presentation:

An 80 years old diabetic female, a farmer by occupation presented to our casualty with painless ulcero proliferative growth over left ala and dorsum of nose, which bleed on touch. There was foul smelling discharge from the ulcer with cluster of maggots within the ulcer. Initially it started as a nodule over nose ruptured spontaneously. She was drowsy with poor general condition and was severely dehydrated, malnourished severely anaemic and poor general hygiene.

Figure – 1 & 2 Shows the view of Patient Face During Admission



On examination 5*3*1.5 cm ulcero proliferative growth was seen over left ala and dorsum of nose which bleed on touch with areas of necrosis and crusting. There was foul smelling discharge from the ulcer and was infested by cluster of maggots. There was restricted mouth opening and bilateral peri-orbital oedema with restricted eye movements due to surrounding facial cellulitis. Left nasal cavity was clear and there was no paranasal sinus tenderness. Ophthalmology, Dermatology and Plastic Surgery opinion was obtained. Edge wedge skin biopsy was taken. Magnetic resonance imaging of paranasal sinus [PNS] showed ulcerative lesion over the left half of the nose and there was no bony involvement or infiltration into the paranasal sinus.

Figure – 3 & 4 View of the Patient's Face after Mechanical Removal of the Larvae and Saline wash



Histopathology of the lesion showed tissue was lined by stratified squamous epithelium, tumorous lesion was invading the deeper stroma, adipose tissue and muscle fibers. Tumour cells were basophilic in nature, having scanty cytoplasm, hyperchromatic nuclei and increased nuclear cytoplasmic ratio. They are arranged in lobules with peripheral palisading pattern. Brisk mitotic activity and extensive areas of necrosis was noted, all features suggestive of basal cell carcinoma [BCC].

Figure – 5 Arrow shows lesion arises from basal layer of skin

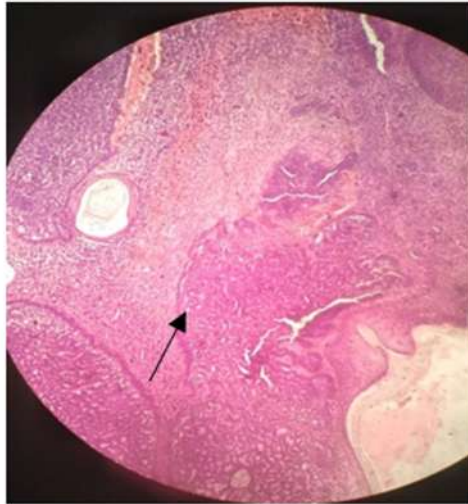


Figure – 6 Arrow shows tumorous lesion invading muscle fibres & arranged in peripheral palisading pattern

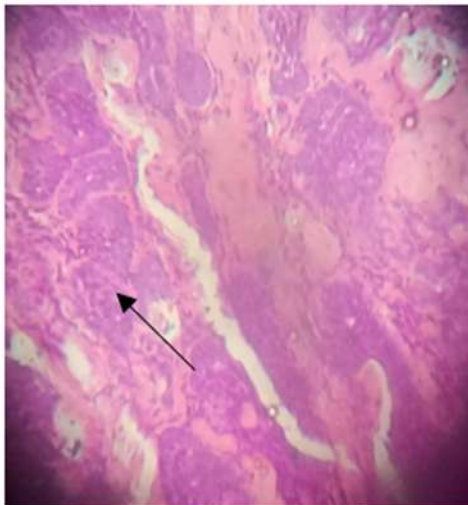


Figure – 7 & 8 Shows wide Local Excision of Tumour and Full Thickness Skin Graft Harvested From left Supra Clavicular Region



The patient was treated with intravenous fluid, intravenous antibiotics, analgesics and oral ivermectin. Anaemia was corrected by 2 units of blood transfusion and she was put on insulin regimen to control the diabetic status. Removal of maggots using tweezer after using turpentine oil over malignant wound which resulted in suffocation and death of maggots. Wide local excision with 1 cm marginal clearance in all dimensions given. The final defect was covered by full thickness skin graft [FTSG], harvested from left supra clavicular region after planning in reverse using a lint pattern. The donor raw area was sutured primarily. Full thickness skin graft [FTSG] was fixed to the defect with 4-0 ethilon by tie over dressing. Post op wound was inspected after 5 days (figure 9) Patient improved markedly and post operative period was uneventful. We observed the patient for one year and no recurrence of lesion was noted.

Figure – 9 & 10 Shows post op wound Photo at First Week and After One Year (No Recurrence of Disease)



Differential Diagnosis:

1. Squamous Cell Carcinoma
2. Nose piercing granuloma with malignancy
3. Pyogenic granuloma

Table.1: Shows Low risk and High risk features of basal cell carcinoma as per National Comprehensive Cancer Network guidelines

Grading criteria	Features ¹	Low risk BCC	High risk BCC
Clinical	Forms	Primary	Recurrent, metastatic
	Immune status	Immunocompetent	Immunosuppressed
	Anatomic location	Area L and M	Area H
	Radiotherapy	No	Yes
	Tumor boundaries	Well-defined	Poorly defined
	Tumor dimensions	Surface area ² : area L, <20 mm; area M, <10 mm	Surface area ² : area L, >20 mm; area M, >10 mm
		Size/diameter: <5 cm	Size/diameter: >5 cm
	Involvement of specified nerves	Absent	Present
Pathologic	Histologic type/growth pattern	Superficial, nodular, keratotic infundibulocystic, fibroepithelioma of Pinkus	Micronodular, infiltrative, sclerosing morpheaform, basosquamous, metatypical/sarcomatoid
	Perineural invasion	Absent	Present, diameter of involved nerve ≥0.1 mm, multifocality, involvement of named nerves

Discussion:

Basal cell carcinoma (BCC) arises from basal layers of skin/ adnexal basal layer of hair follicle/mucocutaneous junction. It doesn't arise from mucosa. Basal Cell Carcinoma (BCC) is a most common skin cancer in the United States in Caucasian population [1]. The life time risk of BCC is 20% in united states [6]. BCC is more common in 40-60 years of age [7], left side is more on the right side. 90% of tumour is present above the Ohngren's line [7]. Most common risk factors for BCC are fair skin (Fitz Patrick Type-I & Type-II), UV Radiation, Male sex, older age, previous history of basal cell carcinoma and Mutation to the tumour suppressor gene (PTCH). It may be nodular / ulcerative/ Nodulocystic (45-70%), superficial (15-35%), infiltrative and morpheaform (4-17%), Pigmented (1-7%), Basisquamous type [3]. It also called as rodent ulcer/ tear cancer. Basal cell carcinoma very rarely metastasises (0.6 %) [2] but is locally invasive and destructive and most significantly no hematogenous and lymphatic spread.

Cutaneous myiasis is a rare condition seen in tropical/subtropical areas. The predisposing factors in our patient were necrotic ulcero proliferative growth, foul smelling discharge with crusting, poor hygiene, low socioeconomic status. Even though it is high-risk basal cell carcinoma (central face presentation,

>2cm size of the tumour), was treated by wide local excision with 1 cm marginal clearance in all dimensions. Full thickness skin grafting was done. Other modalities of treatment are Cryosurgery, Radiotherapy, Laser surgery, MOHS (microscopic oriented histographic surgery).

Conclusion:

Basal Cell Carcinoma presenting with maggot infestation and facial cellulitis is rare. The unusual presentation of our case demonstrates the importance of good self-hygiene and good diabetic control and sanitation in tropical areas with higher population of flies and emphasizes the need to take adequate measures to prevent occurrence of myiasis. Early diagnosis and management will reduce the physical and psychological burdens of delayed treatment. Regular follow up after wide local excision is mandatory since Basal Cell Carcinoma has a recurrence rate as of 38%.

References:

1. Rathore BS, Arora T, Krishna A, Bhatnagar A. Cutaneous myiasis complicating basal cell carcinoma in a case of xeroderma pigmentosum. Indian J Paediatr Dermatol 2015; 16: 249-51.
2. Maybury CM, Craythorne E, Martin B. BMJ Case Rep Published 2013. Doi:10.1136/bcr-2012-008296.

3. O'Connell. Katie A, MS and M. Conran. Richard, MD, PhD, JD. Educational Case: Basal Cell Carcinoma. Academic Pathology, Volume 8. Doi:10.1177/2374289521998030.
4. Kochan Andrzej, Kochan piotr, Atypical debridement of necrotic tissue with natural maggot infestation in a neglected skin cancer female patient. World Journal of Medical Images, Videos and Cases. January 2016, Volume 2.
5. Wollina Uwe, Bennewitz Annett and Langner Dana. Basal Cell Carcinoma of the Outer Nose: Overview on Surgical Techniques and Analysis of 312 Patients. J Cutan Aesthet Surg. 2014 Jul-Sep; 7(3):143-150.
6. Abadin A A, Fosko S, Boniface M, et al. (September 28, 2020) Delayed Presentation of Basal Cell Carcinoma: A Case Report. Cureus 12(9):e10695. Doi: 10.7759/cureus.10695.
7. SRB'S Manual of surgery, 4th edition, (303-306).