Tripe Palms and Acanthosis Nigricans: A Clue for Diagnosis of Advanced Pancreatic Adenocarcinoma

Abstract

Tripe palms is an unusual cutaneous paraneoplastic syndrome characterized by a curious rugose thickening of the palms with an accentuation of the normal dermatoglyphic ridges and sulci. Tripe palms alone or in combination with acanthosis nigricans is strongly associated with internal malignancy, especially carcinomas of the gastrointestinal tract and lung. Any patient with tripe palms must have a complete cancer workup, as in many of the cases it often precedes the malignancy by many months. We report a rare case of tripe palms with acanthosis nigricans in a 50-year-old man with advanced pancreatic adenocarcinoma. Although relatively rare, an early diagnosis is very important to find out underlying malignancy and to improve the prognosis related to the neoplasia.

Keywords: *Acanthosis nigricans, pancreatic cancer, paraneoplastic syndrome, tripe palms*

Bhupen Barman, L. Purnima Devi[1], Binod Kumar Thakur[2], Vandana Raphael[3]

Departments of General Medicine, [1]Radiotherapy and Oncology, [2]Dermatology and STD and [3]Pathology, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, Meghalaya, India

Introduction

Tripe palms (TP) is a very rare skin disorder characterized by velvety white, rugose thickening of the palm with pronounced folds in the lines of the hands.[1] This unusual condition was first introduced in the literature in 1977 by Jacqueline Clarke in a man with squamous cell carcinoma of the lung and the term TP was later popularized by Breathnach and Wells in a report of five patients with internal malignancy.[2] Although in most of the cases it precedes the diagnosis of the cancer, it may arise during any point in the course of the malignancy. Malignant acanthosis nigricans (AN) is also frequently associated with TP.[3] Both TP and AN have been described as paraneoplastic syndrome in association with adenocarcinomas of gastrointestinal origin. However, on literature search, we were able to find only one case report of TP and malignant AN in association with pancreatic adenocarcinoma.[4] We present a rare case of TP associated with malignant AN in an advanced case of pancreatic adenocarcinoma.

Case Report

A 50-year-old man was admitted in the oncology department as a suspected case of carcinoma pancreas with complaints of pain in abdomen which is off and on, radiating to the back, and generalized weakness for the last 5 months. He has also given a history of progressive hyperpigmentation and hyperkeratosis of his skin mainly in hands, face, neck, and also both feet almost a month preceding the presenting complaints. There was no history of diabetes, hypertension, hematemesis, melena, hemoptysis, cough, or dyspnea. Patient is alcoholic for the last 20 years. On general examination there was mild pallor, a hard, tender, mobile left cervical lymphadenopathy of around 3 × 5 cm. Other systemic examinations revealed no abnormality. There was mild tenderness in the left upper abdomen. Cutaneous examination showed hyperpigmentation with thickening of the skin of the face, neck, hands, and feet [Figure 1]. The hands showed enhanced ridges and velvety brownish-yellow hyperkeratosis involving the palmar surface of hands [Figure 2]. There were no mucosal changes of AN noted. Routine blood investigation was within normal limit except mild anemia and slight elevation of transaminases. The viral markers of human immunodeficiency virus, hepatitis B and C were negative. Chest X-ray was within normal limit. Ultrasonography (USG) of whole

Address for correspondence:
Dr. Bhupen Barman, Department of General Medicine, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong - 793 018, Meghalaya, India.
E-mail: drbhupenb@gmail.com

Access this article online

Website: www.idoj.in

DOI: 10.4103/idoj.IDOJ_427_18

Quick Response Code:

How to cite this article: Barman B, Devi LP, Thakur BK, Raphael V. Tripe palms and acanthosis Nigricans: A clue for diagnosis of advanced pancreatic adenocarcinoma. Indian Dermatol Online J 2019;10:453-5.

Received: November, 2018. **Accepted:** January, 2019.

abdomen revealed echogenic ill-defined lesions contiguous with or arising from upper half of the pancreas along with multiple pre- and paraaortic lymph nodes and retroperitoneal lymphadenopathy. Contrast-enhanced computed tomography (CECT) of abdomen revealed bulky pancreas with peripancreatic, periportal confluent bulky, and peripherally enhancing lymphadenopathy. Upper gastrointestinal endoscopy showed esophageal candidiasis with antral gastritis. USG-guided fine-needle aspiration cytology (FNAC) from abdominal lymph node revealed cluster of cell with high nucleocytoplasmic ratio, nuclear hyperchromasia, prominent nuclear outline, and prominent nucleoli suggestive of moderately differentiated adenocarcinoma [Figure 3]. FNAC from the left cervical lymph node showed metastatic poorly differentiated carcinoma in favor of adenocarcionma. A skin punch biopsy, taken from dorsum of the right hand, revealed hyperkeratotic epidermis with papillomatosis and minimal inflammatory cells infiltration including lymphocytes and plasma cells in the upper dermis [Figure 4]. Considering the advanced nature of the disease, option of systemic chemotherapy was explained to the patient.

Discussion

In the present case, the patient had TP, malignant AN associated with adenocarcinoma of pancreas. The cause of TP is not clearly understood, but is thought due to substances from the associated cancer that stimulates the palmar skin cells to proliferate. Elevated serum epidermal growth factor was described in a patient of TP and carcinoma of bronchus.[5] In most of the cases (90%) TP is associated with underlying internal malignancy either alone or in combination with AN. Evidence from published literatures has shown that in 77% of cases TP is associated with AN, whereas in 23% of cases it occurs alone.[6] The most common associated neoplasms are pulmonary and gastric carcinoma followed by esophagus, rectum,

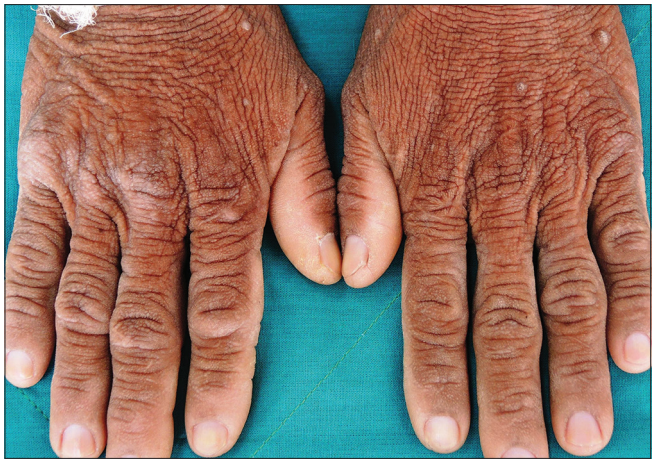

Figure 1: Malignant acanthosis nigricans of both dorsa of hands

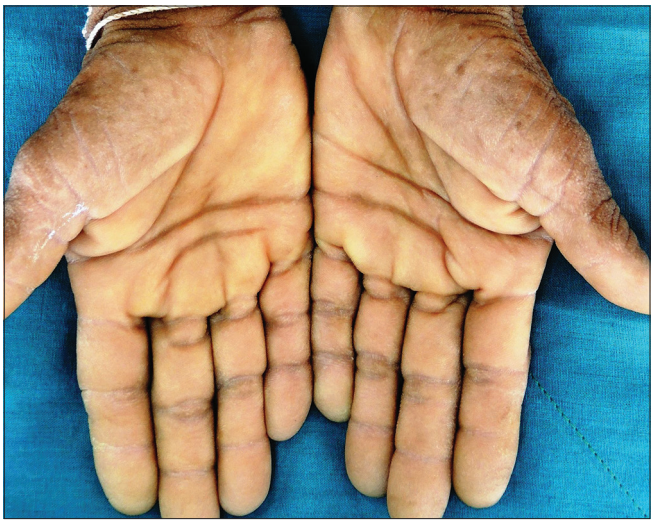

Figure 2: Tripe palms of both palms of the hand

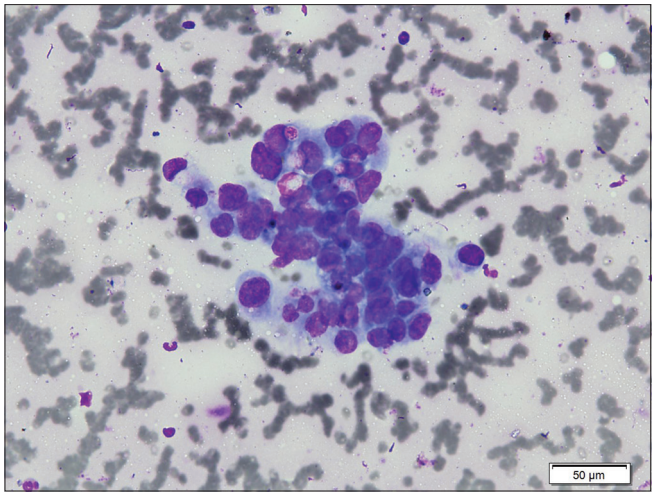

Figure 3: Fine-needle aspiration from the pancreas showing cluster of cell with high nuceocytoplasmic ratio, nuclear hyperchromasia, prominent nuclear outline, and prominent nucleoli suggestive of adenocarcinoma. (May-Grünwald-Giemsa, ×200)

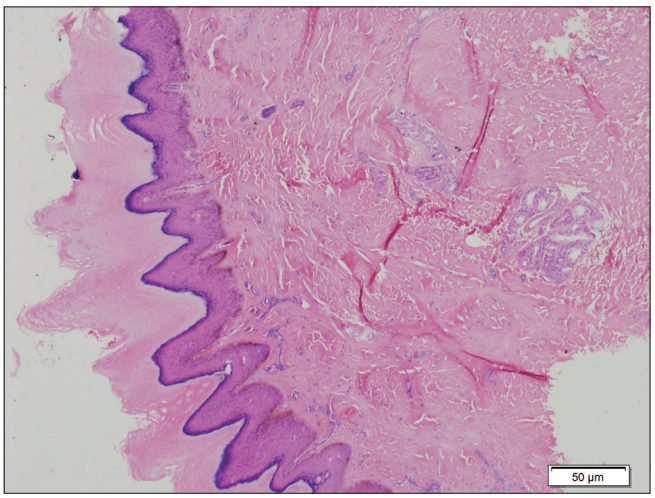

Figure 4: Histopathology of skin showing hyperkeratotic epidermis with papillomatosis and minimal inflammatory cells infiltration including lymphocytes and plasma cells in the upper dermis. (H and E, ×40)

bronchus, urinary tract, ovary, bile duct, thyroid, uterus, liver, kidneys, and breast.[7]

There are various classification of AN given by different authors (Eberting *et al.*, Sinha and Schwartz).[8,9] According to Sinha and Schwartz, AN is classified as obesity-associated AN, benign AN, syndromic AN, malignant AN, unilateral AN, acral AN, drug-induced AN, and mixed AN.[9] Malignant AN is usually of sudden onset with rapid progression. It tends to be more pruritic and can involve mucous membranes, lips, and buccal mucosa.

The pathogenesis of malignant AN remains unclear. A current hypothetical mechanism is the secretion of large amounts of tumor-derived growth factor, in particular transforming growth factor-α (TGF-α) which acts as a key cytokine to mediate epidermal cell proliferation through different growth factor receptors like epidermal growth factor receptor or insulin-like growth factor receptor.[3,10]

The most common malignancy in the patients with both TP and AN is stomach (35%) followed by lungs (11%), whereas patients with TP alone frequently had lung carcinoma (53% of cases).[6] The onset of TP precedes malignancy in more than 40%, follows malignancy in 19%, or can be concurrent within 1 month of the diagnosis of malignancy in 37% of patients.[1,6]

In our case, TP and AN appeared a month before his abdominal symptoms. In clinical practice, the association of malignant AN and TP with pancreatic adenocarcinoma is found rarely. We present this case to emphasize that cutaneous paraneoplasia (as TP or AN) may be the first sign of an underlying cancer. The presence of AN in conjunction with TP is highly suggestive of an internal malignancy and necessitates an extensive investigation to discover the underlying malignancy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Abreu Velez AM, Howard MS. Diagnosis and treatment of cutaneous paraneoplastic disorder. Dermatol Ther 2010;23:662-75.
2. Cohen PR, Grossman ME, Silvers DN, Kurzrock R. Tripe palms and cancer. Clin Dermatol 1993;11:165-73.
3. Chu AC, Teixeira F. Acquired disorders of epidermal keratinization. In: Griffiths CEM, Barker J, Bleiker T, Chalmers R, Creamer D, editors. Rook's Textbook of Dermatology. 9th ed., vol 4. Hoboken, NJ: Wiley-Blackwell publication; 2016. p. 87.2-87.5.
4. McGinness J, Greer K. Malignant acanthosisnigricans and tripe palms associated with pancreatic adenocarcinoma. Cutis 2006;78:37-40.
5. Douglas F, McHenry PM, Dagg JH, MacBeth FM, Morley WN. Elevated levels of epidermal growth factor in a patient with tripe palms. Br J Dermatol 1994;130:686-7.
6. Cohen PR, Grossman ME, Almeida L, Kurzrock R. Tripe palms and malignancy. J Clin Oncol 1989;7:669-78.
7. Pentenero M, Carrozzo M, Pagano M, Gandolfo S. Oral acanthosisnigricans, tripe palms and sign of leser-trélat in a patient with gastric adenocarcinoma. Int J Dermatol 2004;43:530-2.
8. Eberting CL, Javor E, Gorden P, Turner ML, Cowen EW. Insulin resistance, acanthosisnigricans, and hypertriglyceridemia. J Am Acad Dermatol 2005;52:341-4.
9. Sinha S, Schwartz RA. Juvenile acanthosisnigricans. J Am Acad Dermatol 2007;57:502-8.
10. Chosidow O, Bécherel PA, Piette JC, Arock M, Debré P, Francès C. Tripe palms associated with systemic mastocytosis: The role of transforming growth factor-alpha and efficacy of interferon-alfa. Br J Dermatol 1998;138:698-703.