

Saree Cancer: The Malignant Changes in Chronic Irritation

S. LAL, JAYANTA BAIN, A.K.SINGH, P.K. SHUKLA

ABSTRACT

Skin cancers are relatively uncommon malignancies which have been seen worldwide; their incidence in India is less than 1% of all the cancers. The incidence of malignancy in scar tissues is 0.1-2.5%. Saree is a type of female costume and dhoti is a male costume which are unique to the Indian subcontinent. The persistent and the long term wearing of this costume results in depigmentation and glazing of the skin, acanthosis, scar and ulceration and subsequent, but very slow, malignant changes. The exact mechanism of the malignant transformation is unknown, but recurrent trauma over a long period with

consequent interference with the healing process is a possible explanation. Very few papers have been published on saree cancer and no article on this topic is available on Medline and Pubmed. Khanolkar and Suryabai first described 'dhoti cancer' in 1945. We are presenting a rare case of saree cancer in a 70 year old women. She presented with an ulceroproliferative growth which measured 10 cm × 7 cm on the left loin, which turned out to be squamous cell carcinoma on biopsy. Wide excision with primary skin grafting was done. The post operative follow up of one year has shown her to be disease free.

Key Words: Saree cancer, Dhoti cancer, Marjolin's ulcer, Squamous cell carcinoma

INTRODUCTION

A piece of cotton cloth is worn to cover the lower part of the body in most parts of India. This cloth is called the dhoti which men wear and women wear a saree. The dhoti is worn tightly around the waist with one of the shorter ends carried under the groin and tucked at the back. A petticoat is also worn underneath the saree by various women, which is secured tightly to the waist by a cord. The malignant transformation in chronic wounds remains controversial and it is poorly understood. It has been suggested that cellular mutations are responsible for the neoplastic changes that occur in the body cells. The factors which complicate the pathogenesis of saree cancer is that women work, sleep and bath with the saree firmly attached to the waist in the hot and humid climate of certain areas. The waist is often soiled with dust and sweat and it gets the least opportunity for a thorough cleaning. Pigmentation and mild scaling over the waist have become so common among females in India that they are considering it as a normal phenomenon [1]. Chronic irritation in the waist is more commonly associated with wearing a saree as compare to wearing a dhoti, leading to patches of depigmentation, glazing of the skin and acanthosis [2, 3]. Atrophic and keratotic changes in the epithelium lead to ulceration and subsequent, but very slow, malignant changes. We are presenting a rare case of malignancy in the waistline due to chronic irritation of the skin.

CASE REPORT

A-70 year old labourer woman presented with a non healing ulcer along the left waistline, which had a duration of 1½ years. There was a rapid overgrowth in the ulcer since the past 3 months. She also had a centrally hypopigmented patch on the right side of the waist. She gave a history of wearing a tight saree for 55 years. On her clinical examination, an ulceroproliferative growth which measured 10 cm × 7 cm, with everted edges and well-defined

margins, was found on her left loin. A serosanguinous discharge was present on the ulcer bed [Table/Fig-1]. On palpation, the ulcer was tender, it did not bleed on touch and it was not fixed to the underlying structures. The surrounding skin was hyperpigmented and scaly. A hyperpigmented patch of size 15 cm x 10cm with a central hypopigmentation of size of 5cm x3cm was present on the right side of the waist [Table/Fig-2]. The inguinal lymph nodes which were bilateral, multiple, nontender, discrete, firm and mobile were palpable. A wedge biopsy from the left side ulcer showed a well differentiated squamous cell carcinoma (SCC) and a non-inflammatory skin lesion on the right side [Table/Fig-3].

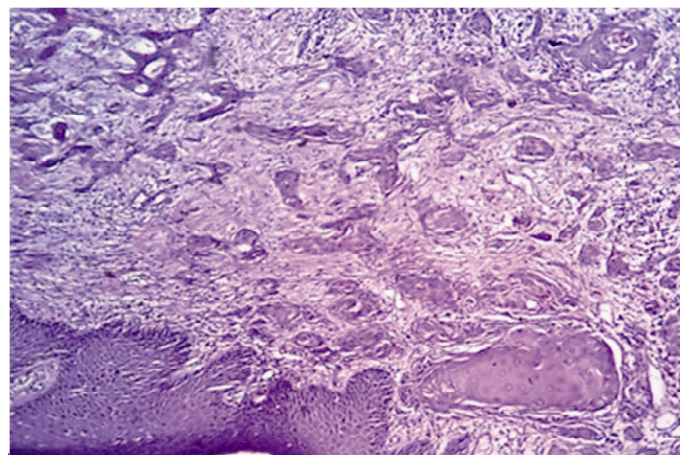
Surgery was planned and wide excision of the growth with primary split skin grafting was done on the left side. On histopathology, the tumour was found to be composed of a hyperplastic epidermis along with sheets of tumour cells which had elongated pleomorphic hyperchromic nuclei with prominent nucleoli and scanty cytoplasm, which was suggestive of a well differentiated SCC with free resection



[Table/Fig-1]: Malignant skin ulcer along left side of waist line



[Table/Fig-2]: Malignant skin ulcer on left side and hypopigmented area on right side of waist line



[Table/Fig-3]: Well – differentiated SCC (H and E, x100)

margins. The post-operative period was uneventful. The inguinal lymphadenopathy resolved after a course of antibiotics. The follow up of one year has shown the patient to be disease free.

DISCUSSION

The incidence of malignancy in scar tissues is 0.1–2.5%. The greatly hypopigmented and thickened scars are more likely to progress into malignant lesions. Khanolkar and Suryabai described a new type of skin cancer – ‘dhoti cancer’ in 1945 [2]. Patil et al., [1] reported a similar type of skin cancer in females which is known as ‘saree cancer’.

The malignant degeneration of a chronic wound which was described by Marjolin in 1828 [4] is now synonymous with a variety of cancers which arise in any scar tissue or chronic ulcers. Usually, the ulcers are SCCs that occur at sites of previous burns, scars, sinuses, pressure ulcers, trauma, sites of osteomyelitis, chronic friction (saree) [1] and prolonged heat exposure (Kangri contact) [5].

The precise mechanism by which chronic ulcers (wounds) develop a malignancy is not known and many theories have been postulated. It has been pointed out that every cutaneous scar which is subjected to continuous irritation has an increased potential for malignant degeneration [6]. Neuman *et al.*, [7] proposed that the traumatic displacement of a living epithelial tissue into the dermis may cause a foreign body response and lead to a deranged regenerative process, resulting in a carcinomatous change. Some authors have also postulated that with chronic irritation and repeated damage of the ulcer, there is a continuous mitotic activity, as the epidermal cells attempt to resurface the open defect. This cycle of damage, irritation, and repair can lead to a malignant transformation [8]. Castillo and Goldsmith [9] proposed that a depressed immunologic state which is produced by the surrounding scar tissue can predispose to malignant degeneration

of the lesion. The absence of lymphatic drainage from the scar allows a significant delay in the host immunologic recognition, and the antitumour immunologic response is poor [10]. The more recent theories have included genetic postulations which involve the human leukocyte antigen (HLA) DR4 and mutations in the p53 and/or the FAS genes [11,12]. Our patient came from an impoverished socioeconomic background and therefore malnutrition could have been a contributing factor. Malignancies which are caused by the wearing of salwars and pyjamas are not reported in literature. This may be because only less friction is produced by these garments.

Excision biopsy is required to confirm the diagnosis of saree cancer. Wide local excision (with a surgical margin of at least 2 cm) together with skin grafting is considered as the appropriate treatment. Lymph node metastases appear later in cases of saree cancer in the inguinal and the axillary lymph nodes [13]. SCCs which develop on chronic skin lesions have a higher incidence of metastasis (9% to 36%) as compared to the carcinomas which arise in previously normal skin (1% to 10%) [14]. The inguinal lymphadenopathy in our patient was reactive and it responded to a course of antibiotics.

CONCLUSION

The formation of a non-healing ulcer should alert the physician and the patient. A prompt histopathological evaluation and an early excision of the malignant lesion should be done to prevent disastrous consequences. The exact mechanism of the malignant transformation is difficult to ascertain. For the prevention of saree cancer, wearing a loose saree and a petticoat is recommended as it reduces the pressure on the waist. Also, the use of a broader belt instead of a cord (nada) and the use of gown, pants or trousers at home are recommended. Regular inspection of the affected part is required to prevent it from transforming into a squamous cell carcinoma.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the help of Dr. G.P.Shrivastava (MS) Professor and Head of Department of Surgery, Shyam Shah Medical College and S.G.M. Hospitals, Rewa, in the revision of this manuscript by doing peer review and by giving valuable suggestions.

REFERENCES

- [1] Patil A.S., Bakhshi G.D., Puri Y.S., Gedham M.C., Naik A.V., Joshi R.K. Saree cancer. *Bombay Hospital Journal*, 2005; 47: (3) 302-03.
- [2] Khanolkar V. R. Suryabai B. Cancer in relation to usages: Three new types in India. *Arch. Path.* 1945; 40: 351.

- [3] Eapen BR, Shabana S, Anandan S. Waist dermatoses in Indian women who wear sarees. *Indian J Dermatol Venereol Leprol*, 2003; 69:88-89.
- [4] Trent JT, Kirsner RS. Wounds and malignancy. *Adv Skin Wound Care*. 2003; 16(1):31-34.
- [5] Neve EF. Squamous cell epithelioma due to Kangri burns. *Indian Med Gazette* 1924; 59:341-4.
- [6] Glover D.M., Kiehn C.L. Marjolin's ulcer: preventable threat to function and life. *Am. J. Surg.*, 1949; 78: 72-780.
- [7] Neuman Z, Ben-Hur N, Shulman J. Trauma and skin cancer: implantation of the epidermal elements and the possible cause. *Plast Reconstr Surg* 1963; 32:649-656.
- [8] Copcu E, Aktas A, Sismant N, Oztan Y. Thirty-one cases of Marjolin's ulcer. *Clinical and Experimental Dermatology* 2003; 28:138-41.
- [9] Castillo J., Goldsmith H.S. Burn scar carcinoma. *Cancer J. Clin.*, 1968; 18: 140-142.
- [10] Fishman J.R.A., Parker M.G. Malignancy and chronic wounds: Marjolin's ulcer. *J. Burn Care Rehabil.*, 1991; 12: 218-223,.
- [11] Harland DL, Robinson WA, Franklin WA. Deletion of the p53 gene in a patient with aggressive burn scar carcinoma. *J Trauma* 1997; 42:104-107.
- [12] Lee SH, Shin MS, Kim HS. Somatic mutations of the Fas (Apo-1/CD95) gene in cutaneous cell carcinomas which arose from burn scars. *Journal of Investigative Dermatology* 2000; 114(1):122-126.
- [13] Gupta R L. Disease of Skin. In: *Textbook of Surgery*. 2nd ed. New Delhi: Jaypee; 2003; 345.
- [14] Cruickshank AH, McConnell EM, Miller DG. Malignancy in scars, chronic ulcers and sinuses. *J Clin Pathol*. 1963; 16:573-80.

AUTHOR(S):

1. Dr. S.Lal
2. Dr. Jayanta Bain
3. Dr. A.K.Singh
4. Dr. P.K. Shukla

PARTICULARS OF CONTRIBUTORS:

1. General Surgery
Assistant Professor
S.S. Medical College & Assoc.
S.G.M. Hospital Rewa (Madhya Pradesh, India)486001.
2. Resident Surgical officer
S.S. Medical College & Assoc. S.G.M.
Hospital Rewa (Madhya Pradesh, India)486001.
3. General Surgery
Associate Professor
S.S. Medical College & Assoc. S.G.M.
Hospital Rewa (Madhya Pradesh, India)486001.

4. General Surgery
Assistant Professor
S.S. Medical College & Assoc. S.G.M.
Hospital Rewa (Madhya Pradesh, India)486001.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Lal S. (MS)
Assistant Professor
Department of Surgery
S.S. Medical College & Assoc. S.G.M.
Hospital Rewa (Madhya Pradesh, India)486001.
Phone: 09301113252
E-mail: slaldr@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS:

None.

Date of Submission: **Mar 25, 2012**
Date of Peer Review: **Apr 21, 2012**
Date of Acceptance: **Apr 24, 2012**
Date of Publishing: **Jun 22, 2012**