

A retrospective study of cases presenting with chilblains (Perniosis) in Out Patient Department of Dermatology, Nepal Medical College and Teaching Hospital (NMCTH)

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ABSTRACT

Chilblains (Perniosis/Pernio) is characterized by painful red-to-purple papular lesions involving the fingers or toes due to non-freezing damp cold that resolves with symptomatic treatment. As in winters, cold is moderate to severe in Kathmandu, this retrospective study was undertaken to find out the incidence of chilblains cases, seeking health care in the Out Patient Department of Dermatology, Nepal Medical College and Teaching Hospital. Cases of chilblains were noted in the months of October to December 2009, January to March 2010, October to December 2010 and January to March 2011. Out of total 49 cases maximum patients (n=25; male 10, female 15) were in the age group of 7-20 years. Rest of them (n=18; male 7, female 11) were in the age group of 21-40 years and only 6 (male 2, female 4) were in the age group of 41-65 years. Amongst all the cases 30 patients were females (61.2%) and 19 were males (38.8%). Most of (79.6%) the chilblain victims sought health care during the months of December to February – coldest time of the years. The patients were advised to protect their acral parts from cold exposure as far as practicable by wearing shocks and gloves. They were advised not to warm their extremities all on a sudden, after exposure to cold, as this causes vasospasm and makes the condition worse. Extremities should be warmed gradually. Assessing the severity of the condition topical allocation of steroid ointment and/or anti allergic drugs was prescribed, when felt needed.

Keywords: Chilblains, perniosis, cold water, wind.

INTRODUCTION

Chilblains or perniosis is a moderately severe form of cold injury, localized to peripheral parts of the body, which occurs after exposure to non-freezing temperatures and damp conditions. Although inter-individual variations exist with respect to susceptibility to develop chilblains, the cold weather conditions that can be endured by humans depend on combination of the duration and the extent of the exposure, in addition to physiological adaptive changes.¹ Pernio is a vasospastic disorder that affects unprotected skin regions of individuals exposed to nonfreezing, damp cold. It may be idiopathic or associated with other systemic diseases, particularly cryopathies and lupus erythematosus. Acute pernio manifests several hours following exposure, whereas chronic pernio may persist even after the cold season has long ended. The pathophysiology is complex and related to patient's sensitivity towards the environmental factors. Sequelae include superinfection, depigmentation, and scarring. Treatment involves rewarming of the whole body and avoidance of further exposure to cold.² However, susceptibility to chilblains increases when ambient temperature is less than 10 degrees C and relative humidity is more than 60%.

Elderly, females, outdoor workers and those having chronic or recurrent episodes of chilblains are less tolerant to cold weather and develop the disease under lesser ambient cold.¹ Distinct clinical features of chilblains can be used for early recognition and management, thus avoiding unnecessary diagnostic testing and delays in patient care.³ As in winters cold is moderate to severe in Kathmandu, this retrospective study was undertaken to find out the incidence of chilblains cases, seeking health care in our hospital.

PATIENTS AND METHODS

Patients attending the Out Patient Department of Dermatology, Nepal Medical College and Teaching Hospital (NMCTH) presenting chilblains were studied. It was a retrospective study. Cases of chilblains were noted in the months of October to December 2009, January to March 2010, October to December 2010 and January to March 2011. Chilblains occur during winter, so the aforesaid time was chosen for the study.

RESULTS

Out of total 49 cases maximum (n = 25; male 10, female 15) were in the age group of 7-20 years. Rest of

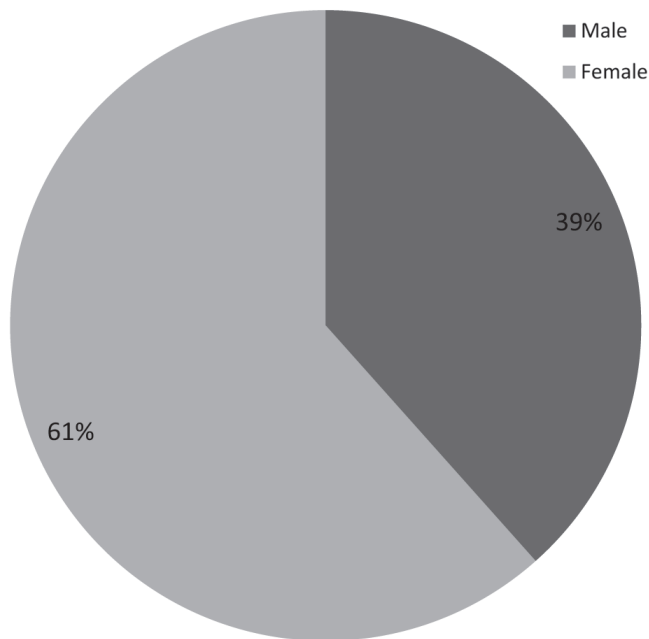


Fig. 1. Distribution of Male/Female patient presenting perniosis

them (n=18; male 7, female 11) were in the age group of 21-40 years and only 6 (male 2, female 4) were in the age group of 41-65 years. Amongst all the cases 30 patients were females (61.2%) and 19 were males (38.8%) Fig. 1. Chilblain cases were noted maximum in the months of December to February. The number of patients seeking health care in Dermatology OPD in different months and in different years was presented in Fig. 2 and 3. Most of (79.6%) the chilblain victims [39 amongst 49 cases] sought health care during these months – coldest time of the years (2-21°C).

DISCUSSION

Chilblains is a recurrent condition encountered in clinical practice; its resemblance to vasculitis or peripheral thromboemboli can often result in an extensive and unnecessary diagnostic work-up: Chilblains is characterized by painful red-to-purple papular lesions

involving the acral surface of fingers or toes that resolves with symptomatic treatment. Female sex and low body mass index are risk factors.³

Chilblains represent an idiopathic vascular cutaneous benign acral syndrome. The patients exhibit pruritic, redness painful, burning acral patches or plaques on the toes and/or fingers. The disease is influenced by exposure to cold water and wind. Spontaneous healing is common when spring arrives and relapse is frequent on the following winters. The clinical examination is sufficient for diagnosis. Histologic examination shows vascular and perivascular capillary and venular lymphocyte infiltrates without necrosis or leukocytoclasia. The differential diagnosis includes: lupus, cold urticaria, acrocyanosis, erythermalgia, vasculitis and the Blue Toe Syndrome. Treatment includes prophylactic measures against cold and calcium channel inhibiting drug.⁴

Cold weather injuries (CWI) are of great military concern.^{5,6} Young male African Americans in the British Army were found more prone to cold injury (30 times greater chance of developing peripheral cold injury and were more severely affected than their Caucasian counterparts) following similar climatic exposure, using similar clothing and equipment. Pacific Islanders were at a 2.6 times increased risk, while being a Gurkha was found to be protective.⁷

Perniosis, or chilblains, are skin lesions that occur as an abnormal reaction to cold, damp environments. Price and Murdoch described five cases of perniosis affecting the thighs. Four of the five cases occurred after wading across mountain rivers. Histological changes of deep perniosis and panniculitis were seen in a skin biopsy from one of the cases. In each case there was marked pain and discomfort, and lesions resolved over more than 1 week.⁸

In the present study more incidence of chilblains were noted in the month of December-February when the ambient temperature remained lowest. Previous studies carried out in Hong Kong also reported more incidences of chilblains during the prolonged cold weather at the end of January to mid-February.⁹ It is evident from the result that among the patients females were more (61.2%) in number. Previous studies also reported more number of female patients with perniosis.¹⁰⁻¹² In order to manage the household work they are compelled to water

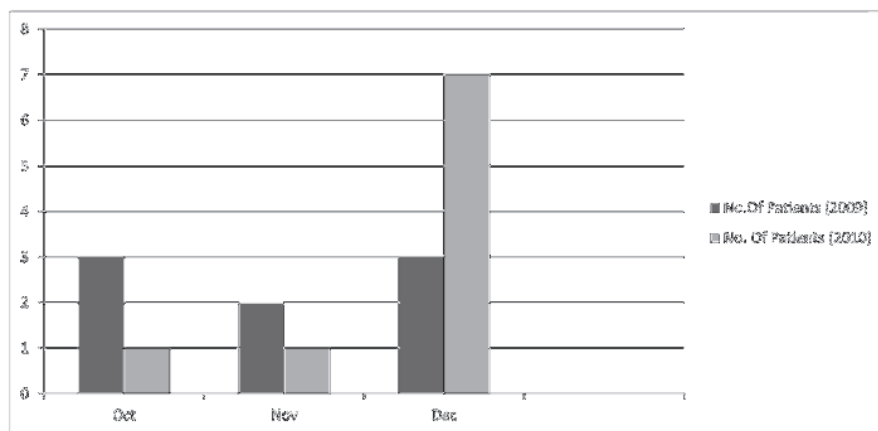


Fig. 2. No. of patients visiting OPD with perniosis

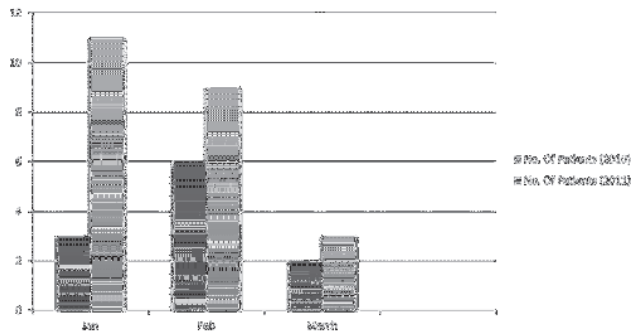


Fig. 3. No of patients visiting OPD with perniosis

exposure for longer time. That may be the cause of more female victims of perniosis. The patients were advised to protect their acral parts from cold exposure as far as practicable by wearing shocks, gloves and thick soled shoes. They were advised not to warm their extremities all on a sudden, after exposure to cold, as this causes vasospasm. It makes the condition worse. Extremities should be warmed gradually. Assessing the severity of the condition topical allocation of steroid ointment and/or anti allergic drugs was prescribed. Previous study also showed prescription of topical use of clobetasol ointment in Iraqi patients.¹³ Literature supported that in severe cases; nifedipine was the drug of choice in chilblains.¹⁴ It promotes faster healing and prevents recurrence.^{2,15} Pentoxifylline was shown to be an effective and safe drug for treatment of perniosis, and superior to oral plus topical glucocorticoids.¹³ However, in the present study anti allergic drug and topical corticosteroids were prescribed, often.

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