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; male10,
female15) 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-
dividual 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
rearming 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.2 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; male10,
female15) were in the age group of 7-20 years. Rest of
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
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. Literature supported that in severe cases; nifedipine was the drug of choice in chilblains. It promotes faster healing and prevents recurrence. Pentoxyfilline was shown to be an effective and safe drug for treatment of perniosis, and superior to oral plus topical glucocorticoids. However, in the present study anti allergic drug and topical corticosteroids were prescribed, often.

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REFERENCES