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A STUDY ON THE ASSOCIATION BETWEEN BURNING FEET SYNDRIME AND HYPERURECEMIA

[1]Dr. B. K. Brar, [2]Dr. Sukhmani K. Brar and [3]*Dr. Neerja Puri

[1]Associate Professor, G G S Medical College & Hospital, Faridkot.

[2]Assistant Professor, Adesh institute of Medical Sciences and Research, Bathinda.

[3]Registrar, G G S Medical College & Hospital, Faridkot.

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***Corresponding Author**
Dr. Neerja Puri
Registrar, Department of Dermatology and Venereology, G.G.S. Medical College & Hospital, Faridkot. 151203. Punjab.

ABSTRACT

Introduction: Very few studies have been conducted to see the association between burning feet syndrome and hyperurecemia. **Methods**: We selected fifty patients of idiopathic burning feet syndrome for the study. **Results and Discussion**: The duration of burning feet syndrome was below 6 months in 30% patients, between 6 months – 1 year in 32% patients, between 1– 2 years in 32% patients and more than 2 years in 6% patients. The response to treatment was excellent in 70% patients, good 16% patients, average in 4% patients and poor in 10% patients. Regarding the disease association, gout was seen in 6% patients, rheumatoid arthritis and renal stones in 4% patients each and vasculitis was seen in 2% patients. **Conclusions:** Further studies with larger number of patients need to be conducted to find out the association between burning feet syndrome and hyperurecemia.

KEYWORDS: Burning feet syndrome, hyperurecemia, gout, arthritis, severity.

INTRODUCTION

Hyperurecemia is defined as plasma or serum urate concentration of 6.8mgm% or more.[1] The risk of developing gouty arthritis or urolothiasis increases with higher urate levels and oxalates in proportion to the degree of elevation. Hyperurecemia is present in 2% – 13.2% of healthy adults.[2,3] Hyperuricemia presenting as burning feet syndrome has not been reported so far.

Burning feet syndrome can be inherited or it can be caused by pressure being put on the peripheral nerves (as seen in carpal tunnel syndrome). Nerve entrapment due to sciatic

mononeuropathy and spinal arterivenous malformation can also cause burning feet.[4,5] Association also exists between this syndrome and diseases like hypothyroidism, diabetes, vitamin B deficiencies, renal failure and rheumatoid arthritis.[6] It is more prevalent in women and commonest age of onset is between 10 – 20 years. Ocular complications can occur including scotoma and ambylopia. General treatment includes wearing open and comfortable shoes, especially those with arched supports. Soaking the feet in cold water (not ice cold) for around fifteen minutes can bring symptomatic temporary relief. Avoidance of feet exposure to heat should be advised.

AIMS AND OBJECTIVES

1. To find out the association between idiopathic burning feet syndrome and hyperurecemia.
2. To see the effect of treatment of hyperurecemia on burning feet syndrome.
3. To find the association between the severity of symptoms and hyperuricemia.

MATERIAL AND METHODS

We selected fifty patients of idiopathic burning feet syndrome for the study. Burning feet syndrome patients were labelled as idiopathic after excluding known causes of burning feet syndrome clinically and by investigations wherever required. Written informed consent was taken from all the patients before the start of the study. All the patients were subjected to routine investigations including complete blood count, platelet count, erythrocyte sedimentation rate, peripheral blood film, renal function tests and liver function tests. Specialized investigations included serum calcium levels, total thyroid profile, RA factor, serum electrolytes, lipid profile and serum uric acid levels. Serum uric acid levels of more than 5mgm/dl in females and more than 6 mgm/dl in males was taken as a cut off for inclusion of patients in this study.

Exclusion Criteria

The following patients were excluded from our study:

- Patients unwilling for the study.
- Patients with rheumatoid arthritis.

The patients were treated with prednisolone 10 – 20 mgm and allopurinol 300 mgm daily, depending upon the severity of symptoms and were tapered off the steroids within 2 – 4 weeks depending upon the severity of symptoms. In severe cases, allopurinol 300 mgm daily was continued. In mild cases, only dietary restriction was advised. Allopurinol was continued

till the uric acid levels were normal. Follow up of the patients was done for 6 months to 1 year. The improvement of the patients after treatment was done according to a grading system as follows: Very good response - > 90% improvement.

Good response – 75% - 90% improvement

Average response- 25% - 74% improvement

Poor response - < 25% improvement

RESULTS

The data was collected, tabulated and the results were analyzed statistically.

TABLE I – TABLE SHOWING AGE DISTRIBUTION OF PATIENTS

SR NO	AGE DISTRIBUTION(YRS)	NUMBER	PERCENTAGE
1	< 20	-	-
2	21 - 40	6	12%
3	41 - 60	25	50%
4	>60	19	38%

TABLE II – TABLE SHOWING DURATION OF BURNING FEET SYNDROME

SR NO	DISEASE DURATION	NUMBER	PERCENTAGE
1	< 6 months	15	30%
2	6 months – 1 year	16	32%
3	1 – 2 years	16	32%
4	>2 years	3	6%

TABLE IV – TABLE SHOWING RESPONSE TO TREATMENT

SR NO	TREATMENT RESPONSE	NUMBER	PERCENTAGE
1	Excellent	35	70%
2	Good	8	16%
3	Average	2	4%
4	Poor	5	10%

TABLE V – TABLE SHOWING DISEASE ASSOCIATION OF HYPERURECEMIA

SR NO	ASSOCIATED DISEASES	NUMBER	PERCENTAGE
1	Gout	3	6%
2	Rheumatoid arthritis	2	4%
3	Renal stones	2	4%
4	Vasculitis	1	2%

DISCUSSION

Males (38) outnumbered females (12) with male: female being 3:1. It was seen that maximum number of patients were seen in the age group between 41 – 60 years, followed by 38% patients more than 60 years of age and 12% were between 21 – 40 years of age. The

duration of burning feet syndrome was below 6 months in 30% patients, between 6 months – 1 year in 32% patients, between 1– 2 years in 32% patients and more than 2 years in 6% patients. The response to treatment was excellent in 70% patients, good 16% patients, average in 4% patients and poor in 10% patients. Regarding the disease association, gout was seen in 6% patients, rheumatoid arthritis and renal stones in 4% patients each and vasculitis was seen in 2% patients. Very few studies are done on the association between burning feet syndrome and hyperuricemia. It was an accidental finding when a patient came to the skin OPD with severe burning feet syndrome and burning sensation on the legs and feet. The patient was having sleepless nights. He was having papulovescicular lesions on the feet. He was non diabetic and non hypertensive but his plasma uric acid levels were 8.2. Hence we decided to do a study to corroborate our findings. In our study, it was seen that burning feet syndrome was seen in patients having both low to higher values of uric acid. It was also seen that the level of uric acid was not proportionate to the severity of disease. On the whole, severity was more in patients having higher levels of uric acid. It was also seen that patients of hyperuricemia with associated vasculitis responded very well to the treatment. There were no complaints in the follow up period which was uneventful.

Hyperuricemia is defined plasma urate concentration of 6.8mgm% or more. It can be symptomatic and asymptomatic. Hyperuricemia can be asymptomatic in 5% of the population.[7,8,9] Symptomatic hyperuricemia is seen in gout, nephroloithiasis, urate nephropathy.[10,11,12] Uric acid stones can develop in persons with no evidence of arthritis, only 20% of whom are hyperuricemic.[13,14,15]

For the treatment of burning feet syndrome, certain creams and vitamin B supplements can help in reducing the symptoms.[16] If this condition is caused by a disease like diabetes, hyperthyroidism, psychosomatic measures must be taken. In mechanical cases such as tarsal tunnel syndrome, conservative treatment with arch supports and wider shoes may successfully relieve the discomfort. If burning feet is due to flat feet, orthotics may help restore the foot's arch.[17]

CONCLUSIONS

To conclude, the uric acid levels at which a person is having burning feet syndrome varies from patient to patient. Also, the severity of the burning feet syndrome increased with the increase in the level of uric acid in the same patient. We found a good number of patients of idiopatic burning feet syndrome responding well to the treatment given to lower the serum

uric acid levels. The patients remained well in the follow up period. Thus due consideration should be given to high urate level in patients of idiopathic burning feet syndrome.

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