

Prevalence of Osteomalacia in Females from Old City of Lahore

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Old city of Lahore has its own social and cultural background. The females of this area usually present in the outpatient department with vague aches and pains. The objective of this study is to see the prevalence of osteomalacia in such patients and to observe the causative factors leading on to osteomalacia. This study was conducted in Mayo Hospital, Lahore from January 2000 to January 2002. Osteomalacia is quite common in females living in old city of Lahore. The etiology is usually multifactorial.

Key words: Osteomalacia, Vit D

In the old city of Lahore the buildings are built in the old traditional style. The buildings are high and the streets are narrow. It is a congested area with a lot of pollution¹. Sun light is available only at the top of the house and the housewives are rarely free to go to upstairs. For old females it is even more difficult to climb on so many steps of stairs. They spend less time in outdoor activities. Their skin synthesizes less Vit. D and its absorption is also decreased in intestines in old age^{2,10}.

Usually the female children leave the education at an early age. So chances of getting sunlight in school are also less. They observe purdah in their early teens and rarely go outside. By tradition the male members of the family are served the best food and the female children are often deprived of milk and meat. Menarche, growth spurt, marriage at an early age, pregnancies in growing period, multiple pregnancies and lactation all increase the calcium demand which is usually not fulfilled and calcium deficiency leading on to osteomalacia is the result.

Material and methods

This observational study was conducted in Outpatient Department, Mayo Hospital, Lahore from January 2000 to January 2002. The female patients coming to OPD having symptoms suggestive of osteomalacia and belonging to old city of Lahore were included in the study.

A total number of 50 patients were studied. The patients were questioned in detail about sun exposure, onset of menarche, menstrual history monthly income, total family members and amount of daily milk intake and about purdah.

In case of married patients history was taken regarding age at which they got married, number of children, lactation history and last delivery history was taken.

Complete examination was done keeping in mind the muscle and bony tenderness, muscle spasm, proximal myopathy and the presence of bony deformities. The diagnosis was made clinically. The laboratory investigations were done to confirm the diagnosis.

Results

The females included in the study were 12-70 years old.

Table 1. (n=50)

Age	No.	%age
12-20 years	10	20
21-30 years	25	50
31-40 years	10	20
41-50 years	03	06
51 and above	02	04

Table 2. Social class (n=50)

Monthly income	No.	%age
Rs.3000/- to 6000/-	25	50
Rs.6000/- to 9000/-	20	40
Rs.9000/- and above	5	10

Table 3. Age of menarche (n=50)

Age	No.	%age
10-11 Years	05	10
11-12 years	09	18
12-13 years	22	44
13-14 years	12	24
15 and above	02	04

Twenty two patients were married.

Table 4. Age at the time of marriage (n=22)

Age	No.	%age
15-18 years	12	54.5
19-25 years	08	36.4
26 and above	02	9.1

Table 5. Daily milk intake (n=50)

Milk Intake	No.	%age
Less than ¼ litre	22	44
¼ to ½ litre	27	54
More than 1 litre	1	2

Table 6. Symptomatology

	No.	%age
Vague aches and pains	40	80
Proximal myopathy	20	40
Muscle tenderness	23	46
Bone tenderness	10	20
Gait abnormality	7	14
Bony deformity	10	20

Bone biopsy was not done in any patient. Bone density was measured in 12 cases x-rays were taken in 45 patients. X-rays were abnormal in 18 patients.

Table 7 Investigations.

	No.	%age	No.	%age	No.	%age
	Normal		Increased		Decreased	
S. Calcium	12	24	Nil	Nil	38	76
S. Phosphate	8	16	Nil	Nil	42	86
Alkaline phosphatase level	5	10	45	90	Nil	Nil

In abnormal x-rays the finding were as follows.

Table 8.

	No.	%age
Loosers zone	18	66.6
Deformed pelvis	3	11.11
Deformed other bones	18	66.6

It is worth mentioning here that osteomalacia may be present without any obvious x-ray findings. Bone density was calculated by ultrasonography. The results were as follows.

Table 9. Bone density (n=12)

Normal	No.	%age
0Normal	1	8.3
0 to -1	7	58.3
-1 to -2	3	25
-2 to -3	1	8.4

Table 10. Total hours of sun exposure (n=50)

Hours	No.	%age
Less ½ hour	25	50
½ to 2 hour	18	36
2 to 4 hours	6	12
More than 4 hours	1	2

Discussion

Osteomalacia is a condition that results from lack of vit. D or disturbance in its metabolism. Inadequate dietary intake, less sun exposure, defective absorption, failure to conserve or receptor insensitivity are different factors affecting the serum calcium levels. The demand may be increased in pregnancy, lactation and puerperal period causing relative deficiency. Calcium absorption may be reduced due to Chappati intake, which contains phytates which bind calcium and zinc⁶. Self imposed restrictions and dieting in the grouping age group can also result in osteomalacia⁶.

Symptoms vary according to the severity of the illness. The disease may have an insidious onset. In the beginning the symptoms are generally vague and the patient complains of generalised aches and pains². The

vague symptoms may be suggestive of a functional disorder especially in young females.

In young children it may be a sequel to childhood rickets in which case the child is short stature and is referred to as nutritional dwarf. But in adults slow turn over of bones give rise to less definitive signs. Pain disappears on lying still and can be elicited by pressure, coughing or turning in bed. In some cases muscle weakness may be confused with primary myopathy. As the pain becomes a prominent feature, the patient complains of low backache, hip pain and pain in the ribs³. Upright posture and exercise aggravate it. The gait may become waddling. In severe cases tetany can develop and the patient may be completely bed ridden.

In most of the cases osteomalacia is preventable as well as treatable. So a high degree of suspicion is needed in females of child bearing age, old age and adolescence Vit. D and calcium supplementation should fulfill deficiency without causing over dosage^{5,7,9}

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