LETTERS TO EDITOR

OSTEOPOROSIS AND OSTEOPENIA IN INDIA: A FEW MORE OBSERVATIONS

Sir,

We read with interest the article by Sharma *et al*.[1] on the prevalence of osteoporosis and osteopenia in Jammu. Osteoporosis is an important public health problem seen in the elderly especially in a rural setting. We have similar observations on osteopenic and osteoporotic persons among those attending medical camps in the rural area of north Kerala.

Eight camps were conducted in the Muslim dominated rural region of north Kerala between September 2005 and April 2007. Quantitative ultrasound (QUS) of the distal radius using the Omnisense® 7000S (Sunlight Ultrasound Technologies, Rehovot, Israel) was used in these camps for determining the t-scores.

The results showed that out of the 609 persons studied, 538 (88.3%) were women and 71 (11.7%) men. The average age of persons attending these camps was 52 ± 12.8 years of which 325 (53.4%) persons were Muslims [Table 1]. In the population studied, 105/609 (17.2%) had a normal t-score, 247/609 (40.6%) were osteopenic and 257/609 (42.2%) were osteoporotic [Table 2]. Of the 257 persons with osteoporosis, 237 (92.2%) were women and the rest men. Among the 247 with osteopenia, 221 (89.5%) were women. Among the osteopenic women, the maximum number was recorded between the age group of 40-49 years (35.8%) and 50-59 years (29.4%), whereas among the osteoporotic women, maximum numbers were observed in the age groups of 60-69 years (33.8%) and 50-59 years (29.5%) respectively.

A test for trend using the chi square test revealed a significant increase in the rates of osteoporosis and osteopenia both in males and females [Table 3]. The prevalence of osteoporosis and osteopenia was found to increase steeply after the age of 50 years. Prevalence rates for osteoporosis in this study (42.2%) are similar to those observed by Vestergaard *et al.* (41%).[2] This rate however, is slightly higher than that observed by Sharma *et al*.[1]

QUS of the radius has been shown to be more sensitive than QUS of the calcaneum when compared to a DEXA scan and has also been shown to be a better predictor than clinical risk factors for women with low t-score.[3] Those patients identified as being at risk using the QUS can then be sent for a complete bone mineral density work up provided there are no financial constraints. This method of screening will help in the early detection and treatment of osteoporosis even in those persons without any clinical signs of osteoporosis. Although useful, QUS cannot replace DEXA, though it can be used as a cost effective tool to assess bone density in the community for ruling out osteoporosis and osteopenia.[4] The advantage of being the only commercially available approach for noninvasive assessment of fracture risk that does not require

Table 1: Demographic details of subjects included in the study (n = 609)

Factors	*(Mean± SD)*	*Number (%)*
Age	52.71±12.8	
Sex		
Male (%)		71 (11.6)
Female (%)		538 (88.3)
Religion		
Muslim (%)		325 (53.4)
Others (%)		284 (46.6)

Table 2: Prevalence of osteoporosis and osteopenia

Condition	*Number*	*Prevalence in %*	*95% confidence interval*
Osteoporosis	257	42.2	38.2-46.2
Osteopenia	247	40.5	36.6-44.5

Table 3: Age wise trend stratified by sex

Age groups	*Males*				*Females*			
	Total (%)	*Osteoporosis (%)*	*Osteopenia (%)*	*Normal (%)*	*Total (%)*	*Osteoporosis (%)*	*Osteopenia (%)*	*Normal (%)*
<20	0 (0)	0 (0)	0 (0)	0 (0)	5 (0.93)	2 (40.0)	1 (20.0)	2 (40.0)
20-29	1 (1.4)	0 (0)	0 (0)	1 (100)	19 (3.5)	2 (10.5)	14 (73.7)	3 (15.8)
30-39	11 (15.5)	0 (0)	2 (18.2)	9 (81.8)	44 (8.2)	9 (20.5)	17 (38.6)	18 (40.9)
40-49	18 (25.4)	5 (27.8)	7 (38.9)	6 (33.3)	137 (25.5)	34 (24.8)	79 (57.7)	24(17.5)
50-59	15 (21.1)	6 (40.0)	6 (40)	3 (20.0)	160 (29.7)	70 (43.8)	65 (40.6)	25 (15.6)
60-69	12 (16.9)	5 (41.7)	4 (33.3)	3 (25.0)	119 (22.1)	80 (67.2)	32 (26.9)	7 (5.9)
70-79	14 (19.7)	4 (28.6)	7 (50.0)	3 (21.4)	48 (8.9)	35 (72.9)	12 (25.0)	1(2.1)
80+	0 (0)	0 (0)	0 (0)	0 (0)	6 (1.1)	5 (83.3)	1 (16.7)	0 (0)
Total	71	20 (28.2)	26 (36.7)	25 (35.2)	538	237 (44.1)	221 (41.1)	80 (14.8)

P Value <0.001

ionizing radiation makes QUS a good screening tool to diagnose low bone density at the community level and supports the work done by Sharma *et al*.[1] Diagnosis of osteoporosis using QUS is practical and economical at the community level. This early diagnosis of osteoporosis would facilitate early initiation of pharmacotherapy and secondary preventive measures using patient education and physical therapy.

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