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ASSESSMENT OF RISK FACTORS OF OSTEOPOROSIS IN POSTMENOPAUSAL WOMAN

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Abstract

Background: To determine the usefulness of risk assessment and screening for osteoporosis in a hospital based population of postmenopausal women.

Methods: 100 women with post-menopausal women, age more than 40 yrs, cessation of period more than 1yr were included in the study.

Result: 17 (17.0%) were more than 65 years of age. Low body weight, inadequate dietary intake of calcium and decreased physical activity were most commonly associated risk factor. 4 (4.0%) women were smokers, women had history of oral steroid intake for >3 months for various medical illnesses.

Conclusion: Evaluation of postmenopausal women by screening for risk factors was found to be a powerful tool to define the risk status for osteoporosis. Low body weight and poor dietary calcium are modifiable risk factors for developing osteoporosis.

Keywords: Osteoporosis, Post-Menopausal, Prevalence

Introduction

Postmenopausal osteoporosis is recognized to be a major health probable and most preventable. According to world Bank report the worldwide population of postmenopausal women which was 470 million in 1990 is expected to increase to 1.2 billion by the year 2030 and 76% of these women will be living in the developing countries. [1]

Postmenopausal females in the Indian population are at a higher risk of osteoporosis because data indicate that Indians have lower bone density than their North American counterparts and osteoporosis fracture occurs 10-20 years earlier in Indian as compared to Caucasians. [2-4]

Material and Methods

Type of study: Prospective observational study

Inclusion Criteria: Post-menopausal women, age more than 40 yrs, cessation of period more than 1yr

Exclusion Criteria: The women with pre-existing coronary heart disease, osteoporosis, psychological disorders, breast and genital malignancies, surgical/ premature menopause (<40 Yrs) and noncompliant patients unable to adhere to study protocol were excluded from the study. All the enrolled women were evaluated regarding age, parity, obstetric history, menstrual history, duration of menopause. A detailed personal, past and present medical & family history was taken with a view to assess the risk for osteoporosis. A thorough general physical, systemic and pelvic examination was carried out.

The diagnosis of osteoporosis is based on the measurement of BMD levels which can be interpreted as per WHO criteria and modified by International osteoporotic foundation.

Data analysis- The data was analysed using student t- test, chi square and co-relation coefficient analysis. A logistic regression was performed to assess the impact of the factors known to be important in the prevalence of the osteoporosis. A p value <0.05 consider as significant.

Results

Table 1: Risk factor

Risk factor	Women with osteoporosis (n=17)	Women without osteoporosis(n=83)	p-value
Age ≥ 65 Yrs (n=17)	11	5	0.01
BMI in kg/mt^2	28.12±5.32	23.15±4.15	0.01
Smoking (n=4)	3	1	0.682
History of steroid intake more 3 months (n=4)	3	1	0.01
Decreased physical activity (n=51)	15	36	0.01
Poor calcium / Vitamin D intake(n=40)	13	27	0.01

7 (17.0%) were more than 65 years of age. Low body weight, inadequate dietary intake of calcium and decreased physical activity were most commonly associated risk factor. 4 (4.0%) women were smokers, women had history of oral steroid intake for >3 months for various medical illnesses.

Discussion

Postmenopausal females in the Indian population are at a higher risk of osteoporosis because data indicate that Indians have lower bone density and osteoporosis fracture occurs 10-20 years earlier in Indian as compared to Caucasiuans. [2] Thomas et al in their study of ambulatory postmenopausal women from Southern India also observed that the mean dietary calcium intake was much lower than the recommended intake for these women. [5] Similar observations were also made by Chibber et al, who observed that the higher prevalence of osteoporosis in women of lower socio-economic status is probably related to their lower nutritional status. [6] Thus a protective role of certain nutritional dietary components can be exploited in preventive educational strategies in Indian women. Our observations were similar to those reported by Thomas P et al who reported the prevalence of osteoporosis to be 16.7%. [5] The prevalence of osteopenia observed in the present study was 24.5%, which is similar to that reported by Chibber et al (29%). [6]

Conclusion

In the Indian scenario, inadequate dietary calcium intake, low physical activity and low body weight are important risk factors for postmenopausal osteoporosis. Hence a balanced diet intake, appropriate exercise and cessation of smoking are modifiable risk factors which can improve the bone health in postmenopausal women in India. Comprehensive evaluation by screening for risk factors and risk assessment was found to be a powerful tool to define the risk status for diseases common to this age group and for sensitizing women towards lifestyle modifications to improve postmenopausal health. All the postmenopausal women presenting to the OPD should be evaluated by a comprehensive holistic approach in the outpatient setting, to understand her needs and to formulate appropriate goals Counselling regarding modifiable lifestyle risk factors should be done in all women to reduce their risk of various health problems.

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