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Early onset osteoarthritis knee in premature menopausal women

Anil Kumar Sharma[1], Smita Sharma Tiwari[2]*, Alka Dixit[2]

[1]Department of Orthopaedics, [2]Department of Obstetrics and Gynaecology, MSY Medical College, Nalpur, Meruth, Uttar Pradesh, India

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***Correspondence:**
Dr. Smita Sharma Tiwari,
E-mail: docsmita1@gmail.com

ABSTRACT

Background: Women with early menopause medical (disease) or surgical (hysterectomy) are having postmenopausal symptoms after a variable period. Osteoarthritis (OA) strikes women more often than men and it increases in prevalence, incidence and severity after menopause. The present study was done to evaluate early onset osteoarthritis knee in premature (early) menopausal women.
Methods: We have studied 160 women with early menopause (before 40 yrs of age) developing symptoms and well established osteo arthritic knees. We have studied various factors with early menopause. The data was analysed using SPSS software version 22.
Results: In our study 138 cases (86.25%) were surgical menopause (hysterectomy) and 22 cases (13.75%) were medical menopause where definite cause was not obvious. An early onset knee pain was noted in 1 to 2 years. But late OA was noted after 6 to 7 years of menopause. Effective treatment was wanted by majority of the patient from the point of view of post-menopausal osteosaropaenia and physiotherophy. Even in urban population erratic treatment was maximum (75%). Dysfunctional uterine bleeding, fibroid or severe intractable infection appeared be the most common indication for hysterectomy.
Conclusions: We concluded that with better awareness of menopause, effective regular treatment and physiotherapy can herald the process of osteoarthritis. The difficulties were mainly developed early because of lack of awareness, no effective regular treatment and physiotherapy. Pain is the starting feature which may continue to severe disability later on.

Keywords: Osteoarthritis, Pain, Menopause, Awareness

INTRODUCTION

Osteoarthritis (OA) is the second most common rheumatological problem and is most frequent joint disease encountered in the clinical practice.[1] This is the most common cause of locomotor disability in the elderly. OA is a chronic degenerative disorder of multifactorial etiology characterized by loss of articular cartilage and peri-articular bone remodeling.[2] Primary osteoarthritis is not only related to aging but also to uncoupling of balance between cartilage degeneration and regeneration whereas, secondary osteoarthritis is caused by another disease or condition. The diagnosis of OA is essentially clinico-radiological.[3]

OA strikes women more often than men and it increases in prevalence, incidence and severity after menopause.[3] The effects of age on both hip and knee OA risk in women follow similar patterns, increasing rapidly between the age of 50 and 75 years. Conversely, risk of hand OA peaks in women after menopause with ≥3.5-fold higher rates in women aged 50–60 years when compared to men of similar age.[4] A large epidemiological study was conducted in Italy supporting the hypothesis that estrogen

deficiency may increase the risk of OA.[5] Therefore, million dollar questions arises, is menopause associated with the onset and progression of osteoarthritis in women. Hence the aim of the present study was to evaluate early onset osteoarthritis knee in premature (early) menopausal women.

METHODS

The present observational study was conducted among 160 women in our hospital (MSY Hospital and Medical College Meerut) and also included few patients from other centers (from January 2018 to March 2019). The ethical permission was taken from the institutional ethic board before the commencement of the study. A written informed consent was obtained from the selected subjects. We have selected women with knee pain unilateral or bilateral and restriction of movements hampering day to day activities who had H/O early menopause (before the age of 40 years) medical or survival (hysterectomy). This study included rural, urban, uneducated and educated woman. The awareness about menopause and symptoms were the variables studied. Other systemic disease and trauma were excluded from the study. Osteopaenia and Osteosarcopaenia are well known in premature menopause or even post-menopausal. Alarming sign is pain and restrictions of the knee joint movements which will hamper day to day important activities like squatting and worshipping. Indian toilets, namaz, puja, cooking and taking bath by sitting are the important activities which alarm the patient. Concern to post-menopausal problems is not as prevalent as for cancer, diabetes and obesity in our society. Reviewing on 3 point likert scale (very concerned, a little concerned and not at all concerned). Hyperuricemia was detected in few patients in nontraumatic acute inflammation of knee joint.

The diagnosis of osteo arthritis is essentially clinico radiological. OA strikes women more often than man. Menopause is associated with the onset and progression of OA. Premature menopause may be associated. Pathological changes in OA are the result of Biomechanical forces coupled with multiple autocrine, paracrine and endocrine cellular events that leads to disturbance in cartilage degeneration and regeneration. Degeneration and regeneration and sarcostopaenia may be added factor.There is increasing evidence that oestrogen having relevant role in maintaining the homeostasis of articular tissue and therefore post-menopausal loss of ovarian function (disuse atrophy) shows a link with OA. So oestrogen works as a protective factor for joint degeneration.

We have classified into various group on the basis of gross etiology, age of menarchy, time gap between early menopause and early and late symptoms of OA knee. Rural and urban difference, effective and erratic treatment and awareness about the result and after effects of menopause premature or normal. All factors were evaluated, analyzed and tabled.

Data were examined, and the responses were coded. The data were then descriptively analyzed using SPSS version 20 (IBM SPSS. Statistics Windows, Version 20.0. (Armonk, NY: IBM Corp).

RESULTS

We have evaluated 160 cases of premature menopause. In our study 138 cases (86.25%) were surgical menopause (Hysterectomy) and 22 cases (13.75%) were medical menopause where definite cause was not obvious. Age of menopause was same in both groups (Table 1).

Table 1: Distribution of subjects according to age related variables.

Variables	Medical N (%)	Surgical N (%)
Age of menopause less than 40 years	22 (13.75)	138 (86.25)
Awareness	5 (22.73)	20 (14.49)

Table 2: Symptoms among the study subjects.

Questions	Medical	Surgical
Time gap after menopause showing early symptoms	1 years	2 years
Showing early OA	2 years	4 years
Showing late OA	6 years	7 years
Time gap in rural areas	4 years	4 years
Time gap in urban areas	3 years	3 years

Table 3: Severity of osteoarthritis among the study subjects.

Variables	Aware women N (%)	Unware women N (%)
2 years after menopause	30 (18.75)	130 (81.25)
5 years after menopause	50 (31.25)	110 (68.75)
More than 5 years after menopause	60 (37.5)	100 (62. 5)

Table 4: Distribution of subjects according to treatment taken.

Treatment type	Rural (120) N (%)	Urban (40) N (%)
Effective treatment taken	10 (8.33)	8 (20)
Regular physiotherapy	0 (0)	2 (5)
Erratic treatment and physiotherapy	15 (12.5)	30 (75)

Awareness about post-menopausal problems was very less but awareness and problems increased with time. An early onset knee pain was noted in 1 to 2 years. But late OA was noted after 6 to 7 years of menopause. Effective treatment was wanted in majority of the patient from the point of view of post-menopausal osteosaropaenia and physiotherophy. Even in urban population erratic treatment was maximum (75%) while regular physiotherapy was reported by 5%. In our study medical causes were not available and also it was not very clear that Oophorectomy were done with hysterectomy or not. But on asking everybody was able to tell about hysterectomy and accurate to round about time of hysterectomy. But dysfunctional uterine bleeding, fibroid or severe intractable infection appeared be the most common indication for hysterectomy.

DISCUSSION

In our study we have selected women having early menopause or under gone hysterectomy before 40 years. OA knees with or without symptoms and signs of osteosarcopaenia were included in this group. Before presentation of myosteoarticular symptoms in hysterectomised cases were observed.[6] The symptoms increased three folds in early menopause. Biological evidence also supported the notion that change in sex hormone status might influence the risk of degenerative disease at peripheral joints sites.[7]

Spector and campion proposed that early perimenopausal decline in progesterone levels result in a temporary increase in the levels of unopposed oestrogen which may predispose to osteoarthritis. Temporary or permanent imbalance may increase the possibility of OA.[8-10]

In the present study, osteoarthritis was seen among the subjects after 2 years of menopause. Unaware women were affected more with OA as compared to aware women. Similar results were reported by Hyun et al and Mahajan et al in their study.[3,11]

After hysterectomy disuse atrophy of ovaries and there on hormonal imbalance may contribute to development of OA.[11,12] It is to be seen whether age development of OA is variable in normal and premature menopause. But we presume if awareness is increased in premature menopause about the risk of osteosarcopaenia and OA development. These problems may be heralded with good education, effective treatment and regular physiotherapy.[13]

CONCLUSION

The management of colorectal cancer has progressed over the past few decades because of many advances, including those in genetics, pathology, imaging, medical In our society the awareness about the disease like diabetes, heart, liver problem and cancer is on increase. Concern about depletion of calcium in body with the increase number of BMD camps and Vitamin D3 estimation and increasing facilities and modalities of investigation. But direct relation between menopause and osteosarcoarticular problems is not a matter of good awareness in women society. Early detection and measures like effective during therapy, good education and regular physiotherapy may herald the crippling episodes of these women.

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