

Observational Study to Evaluate the Prevalence of Early Osteoarthritis (OA) in Knee among Women who were having Premature Menopause

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ABSTRACT

Aim & Objective: Knee osteoarthritis is a common phenomenon among women after menopause and it was hypothesized that hormonal factors play a crucial role in it. The aim of this observational study is to evaluate the prevalence of knee osteoarthritis among women who were having premature menopause.

Material & Method: In this clinical retrospective observational study 145 women in whom symptoms of menopause occur before minimum 40 years of age and visited clinic with complaints of knee osteoarthritis. Visual Analogue Scale (VAS) was used to measure the severity of the osteoarthritis. Data were collected in a predesigned format and were analysed by using computer software "Statistical Package for the Social Sciences" (SPSS) version 16.

Result: Among 145 patients who were included in the study 82 patients were reported with knee osteoarthritis developed within 1 year of premature menopause. As compared to rural area urban areas were having more erratic treatment, but intervention of physiotherapy and regular medication was noted more in urban patients as compared to rural. Visual Analogue Scale (VAS) score was significantly high in both rural and urban patients. Awareness regarding the consequences of menopause was significantly low in both rural and urban patients.

Conclusion: This study concluded that severity of early knee osteoarthritis was higher among study population and lack of awareness was the main culprit for the severity. More patients' awareness is required among aged women regarding consequences of premature menopause and physical exercise or physiotherapy to avoid occurrence or severity of osteoarthritis.

Keywords: Prevalence, Knee, Osteoarthritis, Menopause, Awareness, Physiotherapy.

INTRODUCTION

Knee osteoporosis is more common in women as compared to men. [1] It is also documented in many studies during menopause, the incidence of both knee and hip osteoporosis is a major health problem. [1-4] There is almost more than 3.5 fold increased risk of developing osteoporosis in women especially who were having premature menopause as compared to men with similar age. [5] It has also been documented that average life span of Indian women are 65 years whereas it is 85 years for other developed countries. Thus, quality of life in Indian women is of major concern and we orthopedics encounter osteoporosis cases more frequently where patients are present with mild to severe osteoporosis pain. Knee pain is an imprecise marker of radiographic knee osteoarthritis which is partly dependent to extent of radiographic involvement. Similarly, radiographic knee OA is an imprecise guide to the likelihood that knee pain or disability will be present.

Osteoarthritis (OA) is a progressive degenerative joint disease that affects all structures of the joint. OA can affect all joints, but the most common sites are the knee, the hip and the hand. OA has a tremendous impact on the lives of working age adults and elderly causing pain and functional impairment and being the leading cause for joint replacement surgery.

Knee osteoarthritis is a common phenomenon among women after menopause and it was hypothesized that hormonal factors play a crucial role in it. The aim of this observational study is to evaluate the prevalence of knee osteoarthritis among women who were having premature menopause.

MATERIAL & METHOD

In this clinical retrospective observational study 145 women in whom symptoms of menopause occur before minimum 40 years of age and visited clinic with complaints of knee osteoarthritis.

Both urban and rural patients were included in the study. Any patients who were under any hormonal therapy and patients who were denied to give consent for the study were excluded.

Visual Analogue Scale (VAS) was used to measure the severity of the osteoarthritis. Intensity of subjective pain sensation was used to measure by VAS. [6] The VAS consisted of 10 cm horizontal line, anchored with “no pain” at the left end (i.e., threshold intensity) and “pain as bad as it could be” at the right (i.e., maximally tolerable intensity).

Awareness was measured by a predesigned questionnaire which includes questions related to knowledge of menopause consequences and awareness of OA in women.

Data were collected in a predesigned format and were analysed by using computer software “Statistical Package for the Social Sciences” (SPSS) version 16.

RESULT

Total participants of the study were 145. Demographic details of the participants were listed in table 1.

Table 1: Demographic details of participants

Parameters	Urban population (N=27)	Rural Population (N=118)	P Value
Age (years)	38.1±4.2	37.4±3.8	0.781
No of patients having age of menopause > 35 years (N)	5	32	0.821
Menopause due to medical reason (N)	9	35	0.936
Menopause due to surgical reason (N)	18	83	0.987

Among 145 patients who were included in the study 82 patients were reported with knee osteoarthritis developed within 1 year of premature menopause. Details were demonstrated in table 2.

Table 2: Onset of early and late knee OA among participants

Parameters	Urban		P Value	Rural		P Value
	Medical (N=9)	Surgical (N=18)		Medical (N=35)	Surgical (N=83)	
Onset of early Knee OA after starting of menopause (Time gap in years)	1.1 ±0.4	1 ±0.2	0.038	1.3 ±0.2	1.1 ±0.3	0.629
Onset of late Knee OA after starting of menopause (Time gap in years)	6.3 ±1.1	6.1 ±0.8	0.082	7.3 ±1.1	7.1 ±1.2	0.713

As compared to rural area urban area were having more erratic treatment, but intervention of physiotherapy and regular medication was noted more in urban patients as compared to rural. Visual Analogue Scale (VAS) score was significantly high in both rural and urban patients (table 3)

Table 3

Parameters	Urban population (N=27)	Rural Population (N=118)	P Value
VAS score	5.86±1.4	6.24±0.94	0.014

VAS: Visual Analogue Scale.

Awareness regarding the consequences of menopause was significantly low in both rural and urban patients (table 4).

Table 4: Percentage of awareness

Parameters	Urban		Rural	
	Medical (N=9)	Surgical (N=18)	Medical (N=35)	Surgical (N=83)
Awareness (%)	2 (22%)	3 (17%)	9 (26%)	14 (17%)

DISCUSSION

In this study researcher has noticed that surgical cause is more predominant than the medical one in both rural and urban patients. It has been also noticed that onset of osteoarthritis in one are prominent even in premature menopausal women who are less than 35 years of age. This finding was also noticed in an Indian trial were less than 40 years aged premature menopausal women in both rural and urban areas were having similar early or late knee osteoarthritis. [7]

It has noticed that majority of patients with premature menopause were expressing with onset of osteoporosis symptoms within 1 year irrespective of cause of menopause whether because of surgical or medical. Similar result was also noticed in few Indian and international studies. [8,9]

As compare to rural area urban area were having more erratic treatment, but intervention of physiotherapy and regular medication was noted more in urban patients as compare to rural. Visual Analogue Scale (VAS) score was significantly high in both rural and urban patients.

Estrogen imbalance was the main consequences of premature menopause. [10,11] It has been also established in few studies that estrogen plays an important role towards developing of new onset of osteoporosis. [12-15]

CONCLUSION

This study concluded that severity of early knee osteoarthritis was higher among study population and lack of awareness was the main culprit for the severity. More patients' awareness is required among aged women regarding consequences of

premature menopause and physical exercise or physiotherapy to avoid occurrence or severity of osteoarthritis.

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