



Profile of Osteoarthritis Patient Attending Tertiary Care OPD:- A Cross-Sectional Study

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ABSTRACT

Background:- Knee osteoarthritis is a chronic medical condition of public health importance in this setting. It is mostly diagnosed when preventive measures are no longer practicable due to reliance on the radiological diagnosis. **Methods:-** The present study was carried out in people's college of medical sciences and research centre, Bhopal from November 2012 –April 2014. The study consisted of 25 patients out of which 8 patients had bilateral involvement so in total 33 knees were included in our study. It was a cross-sectional study. **Results:-** Of 33 knees of 25 patients (8 with bilateral involvement) were studied in the department of orthopedics. Out of 25 patients there were 6 males and 19 females. Subject classified according to stage of Kellgren, out of 33 knees of 25 subject (8 bilateral), 14 were in stage II and 19 were in stage III, there was no statistically significant difference among male and female in respect to stages of Kellgren. (p=0.341). **Conclusion:-** Females were affected more than male with OA. Most of the subjects were affected in their late fifties. Female were affected in earlier age group than males. Right side knee was significantly more affected than affected left knee.

KEYWORDS

Kellgren classification, Knee, Osteoarthritis, Profile

Introduction

Osteoarthritis is the most common joint disease, and is characterized by progressive loss of articular cartilage, subchondral bone sclerosis, osteophyte formation, synovial membrane changes, and an increase in synovial fluid with decreased viscosity and lubrication properties. Mechanical, biochemical, and genetic factors are all involved in pathogenesis of osteoarthritis.¹⁻² Structurally, synovitis³, progressive articular cartilage loss⁴⁻⁵, osteophyte formation⁶ and subchondral sclerosis⁷, generally in weight bearing joints such as knee and hip, give rise to biomechanically unstable joints that result in loss of function⁸. Clinically, patients with OA experience pain, stiffness, loss of motion, weakness, and joint instability, all leading to functional limitation and disability.⁹ Perhaps the earliest descriptions of OA were provided by Heberden and Haygarth in the 19th century.¹⁰ In the 1930s and 1940s, Stecher¹¹ showed that there were two forms of this disease, idiopathic and post traumatic. The first x-ray grading system was developed in the 1950s by Jonas Kellgren and John Lawrence.¹² Lawrence led the application of this to epidemiology leading to the observation of discordance between radiographic and symptomatic OA. Clinical diagnosis of OA is made in one in three persons over the age of 50 years, and women are more frequently affected than men.¹³ OA is the leading cause of chronic disability in the elderly¹⁴, owing in part to improved longevity. One in two persons over the age of 70 years and over 85% of persons aged 80 years or more have a clinical diagnosis of OA.¹⁵ The most commonly affected joint is the knee, but OA also affects the hip, spine, hands, and feet. Incidence and prevalence vary slightly by the affected area. Women have higher incidence and prevalence of hand and knee OA and men have higher prevalence of hip OA.¹⁶ With this background present study was planned to find out the profile of Osteoarthritis Patient attending Orthopedics OPD.

Methodology

The present study was carried out in people's college of medical sciences and research centre, Bhopal from November 2012 –April 2014. The study consisted of 25 patients out of which 8 patients had bilateral involvement so in total 33 knees were included in our study. It was a cross-sectional study. The permission form the institutional ethical committee was sought. All patients with knee pain presented in Orthopaedic OPD were screened clinically, Radiologically (AP & lat in standing position) and Pathological investigations was done. Those were found eligible for the study were explained about the study. After obtaining their willingness a written explained consent in the patients own language which he or she can read and write Or in case of an illiterate his left thumb impression in the presence of an attendant who can both read and write was taken. After screening the grade of OA was ascertained according to Kellgren and Lawrence classification of osteoarthritis.¹²

Statistical analysis

The data was entered in Microsoft office excel 2007. The data was analyzed using Epi-info software. The continuous variable was analyzed as mean and standard deviation while categorical data as percentage and proportion.

Results

Of 33 knees of 25 patients (8 with bilateral involvement) were studied in the department of orthopedics. Out of 25 patients there were 6 males and 19 females. There was no statistically significant difference in distribution of subject according to age (p=0.3271). Mean age of study subject that is 58.60yrs. while mean age for male and female was 60.0 and 58.16 respectively. there was no statistically significant difference in mean age between male and female (p=0.692). Table no. 1 reveals distribution of study subject according to stage of

kellegren, out of 33 knees of 25 subject(8 bilateral) ,14 were in stage II and 19 were in stage III, there was no statistically significant difference among male and female in respect to stages of kellegren .(p-0.341). In 8 patients both the knees were involved while in 17 patients only unilateral involvement was seen, of these 12 knees were involved on right side and 5 knees were involved on left side. There was highly significant statistical difference (p-0.001).

Discussion

The present study was conducted in the Department of Orthopedics, People’s college of medical sciences and research centre bhanpur Bhopal from 01-11-2012 to 30-04-2014. In present study, proportion of knee affecting male with OA was 30.3% while in female it was 69.7%. Clinical diagnosis of OA is made in one in three persons over the age of 50 years, and women are more frequently affected than men.¹³ OA is the leading cause of chronic disability in the elderly¹⁴, owing in part to improved longevity. One in two persons over the age of 70 years and over 85% of persons aged 80 years or more have a clinical diagnosis of OA.¹⁵ The most commonly affected joint is the knee, but OA also affects the hip, spine, hands, and feet. Incidence and prevalence vary slightly by the affected area. Women have higher incidence and prevalence of hand and knee OA and men have higher prevalence of hip OA.¹⁶ Both the incidence (number of new cases in a specific period of time) and prevalence (the number of cases in a population at a given time) of OA increase in the elderly.¹⁷ A common initiating factor in OA is the inability of the joint to repair mechanical (trauma) or metabolic (obesity) injuries ¹⁸ during which cellular and biochemical pathways, including immune responses, are activated for tissue repair ¹⁹). Immunoscence, therefore, may be an important factor in promoting pathogenesis of OA in the elderly. Similar findings were noted in the present study. The pathogenesis of OA involves interactions of joint tissues, joint biomechanics, and biochemical pathways. The predominant pathological features of OA are synovitis and fibrosis, accelerated bone remodeling with osteophyte development, and articular cartilage degeneration. Genetic defects of connective tissue structural and regulatory proteins,

such as bone morphogenetic protein 2 (BMP2), cartilage intermediate layer protein (CILP), frizzled related protein (FRZB),and TNF alpha-induced protein (TNFAIP6) have been clearly implicated in the development of OA and are often associated with increased risk of OA.²⁰⁻²¹

Conclusion

Females were affected more than male with OA. Most of the subjects were affected in their late fifties. Female were affected in earlier age group than males. Right side knee was significantly more affected than affected left knee.

Table 1:- Distribution of study subjects according to stage

| KELLE-GREN STAGE | MALE | FEMALE | TOTAL | P value* |
|------------------|----------|-----------|-------|------------|
| TWO | 3(21.4%) | 11(78.6%) | 14 | 0.341 (NS) |
| THREE | 7(36.8%) | 12(63.2%) | 19 | |

* Chi Square

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