

**Original article:**

## **Evaluation of Management of Osteoarthritis with Intraarticular Steroids Injection in a Tertiary Care Hospital**

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### **ABSTRACT**

**Background:** Osteoarthritis is one of the most common form of arthritis, affects about more than 10% of population and can cause severe disability in the long term. The present study was conducted to evaluate the management of osteoarthritis with intraarticular steroids injection in a tertiary care hospital.

**Materials and Methods:** The present study was conducted in a tertiary care hospital to evaluate the management of osteoarthritis with intraarticular steroids injection among 280 osteoarthritis patients. The data was collected and analysed. Statistical analysis was performed using the Statistical Package for the Social Sciences software (SPSS Inc., Chicago, IL, USA).

**Results:** In the present study total males were 44.64% and females were 55.35%. The participants in the age group 40-49 yrs were 22.85%, in the age group 50-59 yrs were 33.21%, in the age group 60-69 yrs were 18.21%, in the age group above 70 yrs were 25.71%. Bilateral knees received intra articular injections in 30.96% females and 37.6% in males. Right knees received intra articular injections in 35.48% females and 36% in males. Left knees received intra articular injections in 21.93% females and 20% in males. Other received intra articular injections in 11.61% females and 6.4% in males.

**Conclusion:** In our study females were affected more with osteoarthritis. The age group effected maximum was 50-59 yrs. Males received intra articular injections in Bilateral knees, right knees more than females. Left knees and others received intra articular injections more in females than males.

**Keywords:** Osteoarthritis, Intraarticular Steroids.

### **INTRODUCTION**

Osteoarthritis is a joint failure, a disease in which all structures of joint have undergone pathological changes often in concert the pathologic sinequanon of disease is hyaline articular cartilage loss present in focal and initially in non-uniform manner. This is accompanied by increasing thickness and sclerosis of subchondral bony plate, by outgrowth of Osteophytes at the joint margin. In knees meniscal degeneration is part of the disease.<sup>1</sup> Osteoarthritis is the single most common cause of disability in older adults, with 10% of patients aged 55 or more having painful disabling osteoarthritis of the knee, a quarter of whom are severely disabled.<sup>2</sup> Men have more knee osteoarthritis before age 50, but its incidence in women rises after menopause, and by age 65 the prevalence is twice as high in women as in men.<sup>3</sup> Standard supportive treatments include patient education, self-management programs, weight loss, physical and occupational therapy, exercises and devices that assist function. Pharmacologic therapies include use of acetaminophen, salicylates, NSAIDs, Glucosamine, chondroitin sulfate,

intra articular (IA) glucocorticoids, hyaluronic acid, etc. Surgical therapy includes arthroscopy and joint replacement.<sup>4</sup>The present study was conducted to evaluate the management of osteoarthritis with intraarticular steroids injection in a tertiary care hospital.

## MATERIALS AND METHODS

The present study was conducted in a tertiary care hospital to evaluate the management of osteoarthritis with intraarticular steroids injection among 280 osteoarthritis patients. Before commencement of study, permission was taken from the ethical committee of the institute and written informed consent was obtained from the patients. Patients having Osteoarthritis diagnosed by orthosurgeons in our out patients department, all these patients are not responding to exercise and NSAID therapy so with the consent of patients we planned for intra articular steroids therapy with triemcinolone acetone. Patients above 40 years with symptomatic osteoarthritis were considered for the study. Patients with secondary Osteoarthritis, severe axis deviation of knee, Varus/ Valgus deformity of knee >15°, Platelet disorders, neoplasms were excluded from the study. The data was collected and analysed. Statistical analysis was performed using the Statistical Package for the Social Sciences software (SPSS Inc., Chicago, IL, USA).

**Table 1: Distribution according to gender**

Gender	N (%)
Males	125(44.64%)
Females	155(55.35%)
Total	280(100%)

**Table 2: Distribution according to age**

Age groups	N (%)
40-49yrs	64(22.85%)
50-59yrs	93(33.21%)
60-69ys	51(18.21%)
Above 70yrs	72(25.71%)
Total	280(100%)

**Table 3: Different joint received intra articular injections**

Type of joint	Females (%)	Males (%)
Bilateral Knees	48(30.96%)	47(37.6%)
Right Knee	55(35.48%)	45(36%)
Left Knee	34(21.93%)	25(20%)
Other	18(11.61%)	8(6.4%)
Total	155(100%)	125(100%)

## RESULTS

In the present study total males were 44.64% and females were 55.35%. The participants in the age group 40-49yrs were 22.85%, in the age group 50-59 yrs were 33.21%, in the age group 60-69yrs were 18.21%, in the age group above 70yrs were 25.71%. Bilateral knees received intra articular injections in 30.96% females and 37.6% in males. Right knees received intra articular injections in 35.48% females and 36% in males. Left knees received intra articular injections in 21.93% females and 20% in males. Other received intra articular injections in 11.61% females and 6.4% in males.

## DISCUSSION

Corticosteroids have both anti-inflammatory and immunosuppressive effect. Corticosteroids act directly on nuclear steroid receptors and interrupt the inflammatory and immune cascade at several levels. By this means, they reduce vascular permeability and inhibit accumulation of inflammatory cells, phagocytosis, production of neutrophil superoxide, metalloprotease, and metalloprotease activator, and prevent the synthesis and secretion of several inflammatory mediators such as prostaglandin and leukotrienes.<sup>5</sup> The clinical anti-inflammatory reflections of these actions are decreases in erythema, swelling, heat, and tenderness of the inflamed joints and an increase in relative viscosity with an increase in hyaluronic acid (HA) concentration.<sup>5</sup>

In the present study total males were 44.64% and females were 55.35%. The participants in the age group 40-49yrs were 22.85%, in the age group 50-59 yrs were 33.21%, in the age group 60-69yrs were 18.21%, in the age group above 70yrs were 25.71%. Bilateral knees received intra articular injections in 30.96% females and 37.6% in males. Right knees received intra articular injections in 35.48% females and 36% in males. Left knees received intra articular injections in 21.93% females and 20% in males. Other received intra articular injections in 11.61% females and 6.4% in males. The one study that investigated potential loss of joint space found no difference between corticosteroid and placebo up to two years. This study also used a higher dose of triamcinolone (40 mg) than most of the other studies (20 mg) and gave repeated injections (every three months for two years).<sup>6</sup>

Trials tend to use one injection only and at lower doses than the recommended 20 mg triamcinolone.<sup>3</sup> A dose of 20 mg triamcinolone (equivalent to 25 mg of prednisone) seems to be efficacious for pain control at two weeks. Only one study used 40 mg triamcinolone, and this found a benefit at 24 months for night pain and stiffness on one scale but not on another.<sup>6</sup> By contrast, in animal models of OA, some in vivo studies did not show the effects of IA corticosteroids on possible mediators, which play a role in the pathogenesis of joint damage.<sup>7</sup>

In a recent double-blind, placebo controlled, in vivo study, investigators demonstrated that IA corticosteroids do not influence the expression of some of the important mediators of cartilage destruction in OA.<sup>8</sup>

## CONCLUSION

In our study females were affected more with osteoarthritis. The age group effected maximum was 50-59 yrs. Males received intra articular injections in Bilateral knees, right knees more than females. Left knees and others received intra articular injections more in females than males. The results with intra articular injection with triamcinolone acetonide are encouraging.

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