

Original Research Article

# To Assess Various Histo-Pathological Changes in Knee Joint Cartilage in End Stage Osteo-Arthritis

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## Abstract:

**Background & Method:** The aim of this study is to assess various histo-pathological changes in knee joint cartilage in end stage osteo-arthritis. Of the various clinical scoring systems available, the Oxford Knee score is considered. The questionnaire, specifically designed for patient undergoing total knee replacement, hence most appropriate for this study. It is a short, practical, reliable, valid and sensitive to clinically important changes over time and is now widely applied and accepted model.

**Result:** Mean score value of oxford knee is 25.69.

**Conclusion:** In recent years, our perception of OA has changed significantly. It is increasing obvious that it is difficult to distinguish between changes in the joints occasioned by age and those of true OA recalling that both are interrelated. Arguably, it is even difficult to know what OA actually is or how to diagnose it. The disease, if indeed, is one disease is no longer seen as wear and tear disorder or one in which cartilage failure and wear produce joint disruption.

**Keywords:** histo-pathological, knee, cartilage & osteo-arthritis.

**Study Designed:** Observational Study.

## 1. INTRODUCTION

Pain is the first and foremost prominent feature of OA knee. It is usually described as deep seated, dull aching, typically aggravated by joint use and relieved by rest/medications, but as the disease progress it may be persistent. Nocturnal pain interfering with sleep is seen in advanced cases. Stiffness after a period of inactivity may be seen but is usually of short duration.

The term "OSTEOARTHRITIS" is a misnomer because inflammation is not the primary process observed. More accurately it is described as degenerative joint disease which represents final common pathway of injury to the joint cartilage.

Early degeneration of articular cartilage occurs in the form of fibrillation or flaking which most commonly occurs on the weight bearing surfaces of the joint. This gradually proceeds to complete destruction of articular cartilage and eburnation of bone, which has a ivory like sclerotic surface. cyst formation occurs in subchondral region, which are due to micro-fractures that degenerate. New bone formation usually occurs at the base of the articular cartilage and surrounding the cyst creating an area of sclerosis. Osteophytes formation is due

to outgrowth of the ossified cartilage. Because of the vascularisation in the subchondral bone, proliferation of adjacent cartilage and endochondral ossification occurs. These outgrowths extend from the free articular space along the path of least resistance.

## 2. MATERIAL & METHOD

The present study was conducted at Amaltas Institute of Medical Sciences, Dewas from June 2020 to Nov 2021. All consecutive patients who attended our out-patient, who satisfied the inclusion criteria enumerated below, who had primary osteoarthritis of knee of varying severity, were considered eligible for the enrolment in the study.

Of the various clinical scoring systems available (WOMAC score, Bristol Knee score, Hospital for Special Surgery score, Hungerford Knee score) the Oxford Knee score is considered. The questionnaire, specifically designed for patient undergoing total knee replacement, hence most appropriate for this study. It is a short, practical, reliable, valid and sensitive to clinically important changes over time and is now widely applied and accepted model.

### Inclusion Criteria:

1. Both sexes
2. Patients with primary osteoarthritis
3. Patients who satisfied the clinical criteria for knee osteoarthritis, which is enumerated below

### Exclusion criteria:

1. All cases of clinical and radiological features of suggestive of inflammatory arthritis like RA.
2. All cases of secondary OA.

## 3. RESULTS

Table No. 1: One-Sample Statistics (N=50)

	Mean	Std. Deviation	Std. Error Mean
K-L x-ray grade	2.14	1.36	0.30
Fca	3.68	2.56	0.29
Fcm	3.08	1.59	0.30
Fcp	3.29	3.47	0.32
Tca	3.67	0.51	0.30
Tcm	3.31	1.73	0.28
Tcp	3.92	1.91	0.32

Table No. 2: Mean Score

	N	Mean	Std. Deviation	Std. Error Mean
oxford knee score (0-48)	50	25.69	48.03	1.317

## 4. DISCUSSION

From the above information one can see there is huge negative co-connection between the clinical Oxford Score and the Kellgren Lawrence x-beam evaluating. This implies with demolishing radiological grades one could anticipate less clinical scores or decaying practical

capacity. The p esteem is additionally critical  $<0.005$ , in co-connection among the three boundaries in end stage OA.

Albeit the probability of a patient encountering knee torment for the most part increments with the seriousness of radiographic OA, there is significant harshness between the radiographic changes, clinical side effects, and the level of inability experienced by the patients.

Comparable outcomes were figured out examination of harshness between radiographic changes and knee torment in OA knee. It likewise noticed that there leaves a significant conflict between knee torment, radiographic OA and a finding made by doctor. These peculiarities are significant in the plan of clinical examination studies and furthermore to characterize the models of OA.

The degree of handicap experienced by the patient has been displayed to co-relate all the more precisely with their age and mental association than with their radiographic scores. In any case in an investigation of  $>700$  patients with knee torment, of whom 68% had radiographic OA the presence of radiographic OA (as characterized by K-L score) was reliably connected with seriousness of agony, solidness, and actual capability.

## 5. CONCLUSION

In recent years, our perception of OA has changed significantly. It is increasing obvious that it is difficult to distinguish between changes in the joints occasioned by age and those of true OA recalling that both are interrelated. Arguably, it is it is even difficult to know what OA actually is or how to diagnose it. The disease, if indeed, is one disease is no longer seen as wear and tear disorder or one in which cartilage failure and wears produce joint disruption.

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