

UNICOMPARTMENTAL KNEE PROSTHESIS VERSUS CORRECTIVE OSTEOTOMY

Essay submitted in the fulfilment of the Master Degree in orthopaedic surgery

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ABSTRACT

The goal of treatment for unicompartmental OA is to reduce pain, restore function and improve quality of life. UKA is attractive alternative to osteotomy, however osteotomy attractive alternative to UKA in selective cases, so when deciding on the appropriate management strategy for an individual patient, must be follow general considerations .

Keywords: unicompartmental OA+Unicompartmental knee prosthesis+Corrective osteotomy.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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To my family

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Aim of study

To assess all aspects of the treatment of monocondylar genoarthrosis by unicompartamental knee arthroplasty, in comparison to corrective osteotomies merits and demerits of each method suites us socially, economically, as well as accessibility, on the basis of review of the literature.

List of abbreviations

&	And.
<	Less than.
=	Same.
>	More than.
ACL	Anterior cruciate ligament.
AKP	Anterior knee pain.
A-P views	Anterior-posterior views.
AVN	Avascular necrosis.
CWO	Close wedge osteotomy.
DVT	Deep vein thrombosis.
Fig	Figure.
FS	Function systems.
FU	Follow up.
HTO	High tibial osteotomy.
KSS	Knee society score.
LCL	Lateral collateral ligament.
MCL	Medial collateral ligament.
MIS	Minimally invasive surgery.
MR	Magnetic resonance.
MRI	Magnetic resonance imaging .
OA	Osteoarthritis.
OT	Osteotomy.
OWO	Opening wedge osteotomy.
P-A views	Posterior- anterior views.
PCL	Posterior cruciate ligament.
PFA	Patellofemoral arthritis.
PFOA	Patellofemoral osteoarthritis.
ROM	Range of motion.
SFA	French society of arthroscopy.
SONK	Spontaneous osteonecrosis of the knee.
TKA	Total knee arthroplasty
UKA	Unicompartmental knee arthroplasty.
UKR	Unicompartmental knee replacement.
Vs.	Versus
EHL	Extensor hallucis longus muscle

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Introduction

Genoarthrosis primary or secondary, unicompartmental or panarthrosis is one of common problem in our community. more than 70% of our patient in the orthopaedic out patient department coming complaining of knee problem and treatment ranges from conservative (decrease of the weigh, exercises, physiotherapy, local injection, drugs in form anti-inflammatory drugs steroidal as well as nonsteroidal) to surgical (joint debridement arthroscopic or open, corrective osteotomies, unicondylar arthroplasty, total knee replacement and rarely arthodesis) (**Felson *et al* 2000**).

In unicompartmental genoarthrosis there are options as corrective osteotomies or unicondylar arthroplasty which has mainly similar indications but both techniques will not stop progressive of osteoarthritis so there is still controversial about which technique is the best for the patient. (**Steven *et al* 2001**).

Badet *et al* (1995) found significant number of patient will need TKA after HTO and show difficulties and the result of subsequent TKA in relief of pain and knee function are inferior in TKA after HTO than TKA without HTO.

Meding (2001) found there are difficulties in preoperative of TKA as alignment and decrease bone stock after HTO which are not effect on result of TKA.

On other hand unicompartmental implant is used early to replace the opposite articular surfaces of the femur and tibia of the medial or the lateral compartment of knee it was poor result reported by many surgeons led to a marked decline in its popularity ,but with identification and correction of pitfalls in the surgical technique plus the development of better implant designs and instrumentation have rekindled limited enthusiasm for the procedure in more precisely selected patients (**Robert 2003**)as found by some author excellent clinical result and small skin incision after unicompartmental knee prosthesis (**Seth2002**).

Classification

of

Osteoarthritis

Classification of Osteoarthritis

Osteoarthritis (OA), also often called osteoarthrosis or degenerative joint disease, is the most common form of arthritis. It is extremely common, particularly among elderly people. OA may affect one or many joints in the same individual and it represents a major cause of morbidity, disability and social isolation, especially where the hip and knee are involved. The classification and nomenclature of OA are problematic and the multifactorial nature of OA is well recognized. OA can, theoretically, be classified in a number of different ways based on radiological, clinical or symptomatic features; however, each system overlaps with another and no one scheme is ideal. Nevertheless, for the purpose of defining healthcare need, it is the symptomatic features that truly matter. Thus, from an aetiological point of view, OA might be considered primary (idiopathic) or secondary to other disorders. It may also be monoarticular (affecting one joint) or polyarticular (affecting many joints) and genetic influences can apply here. However, none of these methods of classification is ideal and some may appear rather artificial, particularly since the multifactorial nature of OA is well recognized (**Jill et al 2007**).

OA has always been classified as a noninflammatory arthritis; yet, there is increasing evidence for inflammation occurring with cytokine and metalloproteinase release into the joint. Therefore, the term degenerative joint disease is no longer appropriate when referring to OA. (**Eli Steigelfest 2005**).

Osteoarthritis can be classified into primary and secondary types Table (1). Primary osteoarthritis generally is a polyarticular degenerative arthritis of unknown origin that may be active to some extent in several joints and rarely occurs before the age of 35 years (Table 2). Secondary osteoarthritis usually is monoarticular, in which the reaction of a joint to some condition has produced incongruity in its surfaces. Mechanical derangement, pyogenic infection, congenital anomaly, physeal separation, ligamentous instability, and fracture into a joint are among the common causes of secondary osteoarthritis (Table 3). The prognosis is better for the primary type, polyarticular degenerative arthritis, than for the secondary type. The end stage of both types may be the same, but the progression of primary