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Femoral neck fracture is notoriously known as an orthopaedic enigma, as permanent solution for its treatment still eludes the orthopaedic surgeons. Hence have acquired the notoriety of being called “The unsolved fracture” (Dicson 1953).

Femoral neck fracture in elderly patients represents a disturbing and potential ominous landmank in their personal health history. To the health care system and society in general, femoral neck fracture represent and epidemic disease. Though the femoral neck fracture is primarily a disease of individual older than 50 year, a very small group (3-5%) are younger patients, subjected to high energy trauma, motor vehicle accidents and fall from height. The remainder occurred in elderly population, and approximately 90% of their injuries are result from of simple fall from standing position. Progressive osteoporosis is generally believed to be primary force driving increased incidence of hip fracture in the elderly, have lower bone mineral density, then age matched controls. Because of these reasons it has become the most common fracture of elderly age group and it is rightly said by Sir John
Ebenezar – “We come the world under the brim of pelvis and go out of the world through the fracture neck femur”.

Various complications are associated with these patients, as they are elderly, are prone to general complications such as deep vein thrombosis, pulmonary embolism, pneumonia and bed sores. Inspite of, these problems, few specific problems associated with fracture are :-

- Avascular necrosis
- Non union
- Osteoarthritis

The main causes behind these complications are the vascularity of proximal fragment and complex anatomical geometry of this region.

Various characteristics of femoral neck fracture causing these problems, are also which produces difficulties in its management, are

- Peculiar vascular anatomy
- Presence of shearing forces at fracture site due to neck shaft angle and anteversion.
• Lack of cambium layer in periosteum of neck

• Presence of angiogenic inhibitory factors which causes clot lysis at fracture site.

• Reduces osteogenic activity in geriatric age group.

• Temponad effect, decrease blood supply of proximal fragment as the fracture is intracapsular.

Femoral neck fracture has no satisfactory solution inspite of numerous methods of internal fixation since, the first reported one and half century back (1850). Although the operative procedures have become easier with availability of good radiographic control including image intensifier, improved implant material, better understanding of biomechanics and firm fixation devices, non-union of fracture and avascular necrosis of femoral head leading to painful and a stiff hip have not been completely overcome.

It is widely accepted that the best hip obtained following femoral neck fracture is one that has been anatomically reduces, thoroughly impacted and rigidly fixed. But it must heal and escape avascular necrosis or late segmental collapse. Such hips are obviously always better than even the best prosthetic replacement.
Certainly a united fracture with an intact natural femoral head produces a better long term result than primary hemiarthroplasty.

The currently offered algorithm for this fracture employs, internal fixation after closed or open reduction for majority of the cases with adequate bone density. Prosthetic replacement is reserved for those physiologically older patients in whom internal fixation is unlikely to succeed-- those with marked osteopenia, fracture comminution or both and pathological fractures. In general such patients are physiologically elderly with low functional demands.

Those patients who are presented late, or with associated complication or with failed internal fixation and are not suitable for arthroplasty for them various osteotomies are performed. Reposition, displacement or angulation osteotomies around trochanter have several biomechanical advantages by converting shearing forces to compressive forces at fracture site, changes line of weight bearing, functions of abductors are re-established more efficiently, hip movements are improved, pain is relieved and vascularity of proximal osteotomy site is improved and reestablished. Due to these various advantages now a days few
surgeons preferred to perform reposition osteotomy even in fresh cases too.

As the innumerable methods of treatment and voluminous literature is available on the subject, but the fracture is still considered to be an unsolved fracture and endeavor has been made to find the best methods of treatment available. Hence evaluation of results using corticocancellous screws, hemireplacement arthroplasty and osteotomy has been made.