

Total knee Replacement ( TKR ) and Hip fracture coming for replacement surgeries becomes the two most common surgical procedures for patients after the 6<sup>th</sup> decade of life . Most patients have degenerative joint disease , commonly osteoarthritis ( OA ). Other conditions requiring knee or hip replacement is injury to neck of femur or knee joint , knee deformity, haemophilia and gout . Joint replacement is performed to relieve pain and morbidity .

One of the biggest challenges that face the anaesthesiologists when offering perioperative care of these patients are , the concurrent co existing diseases , and the decreased organ reserves .Patients are elderly and commonly have associated problems such as hypertension , ischaemic heart disease ,chronic obstructive pulmonary disease and renal impairment . However with advantages in our understanding of the pathophysiology ,safer anaesthetic techniques, advanced monitoring ,better surgical solutions, multimodal pain therapy ,early mobilization protocols, counseling and rehabilitation of perioperative morbidity and mortality has considerably reduced .

Hypoxemia is a constant factor in hip fracture patients .It must be related to co existing disease, the pathophysiology of the fracture or the effect of bed rest . In advanced geriatric patients ,lung function has decreased with age and closing volume is very near to tidal volume .Atelectasis is inevitable and may lead to pneumonia from defective secretion clearance . Careful preoperative evaluation is essential to identify risk factors and ensure that the patient is as fit as possible for surgery . Prophylaxis against deep vein thrombosis after lower limb joint surgery is done with low molecular weight heparin starting either postoperatively or 12 hours preoperatively .

Once the initial assessment is complete , the interaction of co existing diseases must be evaluated .The high incidence of fat embolism in knee replacement surgery and hip fracture repair with cemented endoprosthesis contribute further to pulmonary dysfunction . With regard to use of tourniquet in total knee replacement tourniquet inflation may precipitate heart failure , may cause hypotension after release of tourniquet due to

release of acidic products , the affected limb getting filled with blood and blood loss .Cement implantation syndrome resulting in hypoxia and hypotension may occur after insertion of the prosthesis .

The choice of anaesthesia is determined by surgical factors , patient factors and estimates of risk associated with anaesthetic technique .All patients must be monitored with blood pressure (usually non-invasive and for some cases invasive ), ECG and pulseoximetry .Capnography if general anaesthesia is indicated .

The current evidence favours the regional anaesthetic technique as there are certain proven advantage of regional anaesthesia over general anaesthesia The regional technique commonly used are spinal , epidural , combined spinal epidural and Femoral and sciatic nerve blocks alone. Postoperative pain management is a prime consideration . If epidural anaesthesia is instituted , it may be extended postoperatively . A femoral nerve block provides useful postoperative analgesia . Patient controlled analgesia gives greater patient satisfaction .NSAIDs are a useful supplement .

Geriatric patients with hip fracture and for total knee replacement surgery offer a great challenge to the anaesthetists .A careful pre operative examination , pre operative optimization , safe intraoperative anaesthetic technique , good post operative pain relief and rehabilitation would aid in decreasing the morbidity in these patients .

## References

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