Problem solving session

45 year old lady slips and falls on the ground. She is unable to get up and walk. The X Ray reveals a fracture of the femur at the lesser trochanter.

Fracture can occur due to mainly three causes, traumatic, pathological and stress. Out of those causes it is very unlikely to occur a fracture at lesser trochanter in a lady of 45 years of age by a traumatic cause or by continuous stress which leads us to the suspicion of a pathological fracture.

The lesser trochanteric fracture is a subtrochanteric fracture of extracapsular fractures of neck of the femur. Extracapsular fractures consist of trochanteric and subtrocanteric fractures, and this subtrochanteric fractures are unstable fractures due to the lesser contact area of bones.

First aid should be given to the patient as soon as possible and the patient should be taken to the hospital as early as possible. In first aid it must be assessed if the patient is stable. In an incident like this patient is stable most of the time. So the major concern here is to prevent further damaged to soft tissues, nerves and blood vessels. So it is essential to immobilize the limb.

General rule is to splint a joint above and below the fracture or lightly tape the injured leg to the uninjured one putting padding between the legs. If no padding, pillows can be used. Then move the patient quickly to the hospital. Keep her fasting as she may undergo general anaesthesia for surgery.

At the hospital a proper history should be taken. Her age, occupation, about the incident which lead to this fracture and aftermath of the incident like any numbness, bleeding, inability to walk should be asked. Any history of lethargy and depression, polyuria and polydipsia should be asked to exclude hyperparathyroidism. And also previous fractures, any previous surgery, recent weight loss, any history of carcinoma of breast, ovaries, Kidneys, thyroid and lungs, any family history of carcinoma should be sought.

So considering the history we can take primary bone tumor (oeteosarcoma, chondrosarcoma), metastases tumor, multiple myeloma and hyperparathyroidism as our differential diagnosis.

On examination, on general examination signs of emaciation, lumps on the neck, any surgical scars on the neck, chest, abdomen, any sign of clubbing, lumps on breasts and any signs of lyphadenopathy, any bruising over hip joint of the affected side should be looked for. On respiratory system examination dull percussion note, reduced respiratory sounds and on abdominal examination palpable masses, fluid in abdomen should be noted. Fracture site examination is inappropriate due to the pain it would cause.

It’s essential to confirm the diagnosis of fracture and the fracture site by taking a X- ray film of the femur in anterior and posterior view and the lateral view. Chest and pelvic X-ray and a bone scan and also CT scans can be done to exclude carcinoma. Serum calcium levels and bone marrow biopsy can be done to exclude hyperparathyroidism and multiple myeloma respectively. Routine investigations and ECG should be done to assess the fitness to undergo surgery.

Treatment for the fracture is open reduction and internal fixation. Reason for open reduction is due to high level of non union with other methods. Internal fixation is done with Dynamic Hip Screw (DHS) which allow micro movements which stimulate osteoblastic activity, hence fracture healing. With DHS partial bearing can be started after 3 days with the help of a walker. Due to the mobilization complications like deep vein thrombosis, bed sores, misuse atrophy are absent with this treatment method. And it also affects patient’s mental state positively.

Close follow up should be given after the fixation. Wound should be checked for proper healing 1-2 weeks later. Rehabilitation should be started in 2 weeks time for quadriceps, hamstrings and calves muscles. Static hamstring extension, static quadriceps extension and heel sliding exercise and mini squat for claves muscles are some of the exercises used in physiotherapy.

Management of aetiological causes should be done accordingly.