INTRODUCTION
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AIM OF THE WORK

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Spinal Cord injuries (SCI) are devasting and generally result in sever Long-term disability. These injuries most often occur secondary to road traffic accident, falling form height and sport or recreational activities. Spinal Cord injury associates with a fracture dislocation of a - vertebra occurs most frequently in the lower thoracic or thoraco-lumber spine **(Bolesta et al., 1996)**

Severity of spinal cord injury is determined clinically, by whether the lesion is complete or incomplete **(Stauffer., 1991) .**

Osteoporosis is disease characterized by low bone mass, micro-architectural deterioration of bone tissue and consequent skeletal fragility with an increase in fracture risk. It is a complex multifactorial chronic disease that often progresses silently for decades until characteristic features occur late in life **(Sambrook et al., 1998).**

Peak bone mass is an important determinant of future bone mass and of risk of osteoporosis and subsequent fractures **(Trapan et al., 1998).**

Progress in the field of osteoporosis has been considerable during the last two decades and patients at risk can now be identified by non invasive measurement of bone mineral density (BMD) and effect the preventive and restorative therapies are available **(Sambrook et al., 1998)**

A monge the currently available techniques for assessing bone content and density, the Dual – Energy X-ray Absorptiometry (DEXA) **(Fulkner et al., 1991).**

The technology of DEXA incorporates an X- ray tube and attenuation of two different energies of photon fluxes by soft tissue & bone are used to calculate the bone mineral density. Newer DEXA echnique make it possible to measure bone density of the spine and femur rapidly in O.5 to 2.5 minutes **(Le Boff 2001).**

Biochemical markers of bone turn over are noninvasive measurements for assessing bone mineral status and have been very helpful in studies of the pathogenesis of osteoporosis **(Watts., 1999).**

Aim of work

The aim of this study is to determine:

1- The bone mineral density (in the lumber spine and femoral neck) and biochemical markers of bone turn over in individuals who have spinal cord injures.

2- Investigate the relationship between bone mineral density, biochemical markers of bone turn over and severity of the spinal cord injures, level at which the spinal cord injures occurs and duration of spinal cord injures (time elapsing since the spinal cord injures).

3- Investigate the relationship between the biochemical markers of bone formation (bone specific alkaline phosphates) and biochemical markers of bone resorpition (C- telopeptid).

4- Investigate the relationship between the bone mineral density in the lumber spine and the bone mineral density of the femoral neck.