**Summary of Medical Surgical Nursing I**

**Topic: Paget’s disease**

**Class: B.Sc.2nd year (10am-11am)**

**INTRODUCTION**

Paget’s disease is the chronic disorder of bone that can result in enlarged & mishappen bones.

The excessive breakdown and formation of bone tissues cause affected bone to weaken, resulting in pain, fractures and arthritis in the joints near the affected bone.

It is typically localized affecting one or two bones.

No two people are affected the same way by the disease.

**DEFINITION**

“Paget’s disease or Osteitis deformans is a disorder of localized rapid bone turnover most commonly affecting the skull, femur, tibia, pelvic bones & vertebrae”

**ETIOLOGY**

* **VIRAL:**

Paramyxovirus, present many years before symptoms appear.

Associated viral infections includes respiratory syncytial virus, measles virus

* **Genetic:**

Due to hereditary factors, siblings often develop the disease.

**STAGES**

**Four stages are there:**

* Osteoclastic activity
* Mixed osteoclastic-osteoblastic activity
* Osteoblastic activity
* Malignant degeneration.

**PATHOPHYSIOLOGY**

* Primary proliferation of osteoclasts
* Induce bone resorption
* Compensatory increase in osteoblastic activity that replaces the bone
* Bone turnover continues & a class mosaic pattern of bones develops
* High vascularization & structural weakening of diseased bone
* Occurrence of pathological fractures
* Structural bowing of legs
* Misalignment of hip, knee & ankle joints
* Contributes to development of Arthritis, backache & joint pain.

**CLINICAL MANIFESTATIONS**

* Paget’s disease is insidious, most of the cases never experiences symptoms.
* Some patients have symptomatic deformity and pain.
* Skull may thicken.
* In some cases cranium but not the face is enlarged which gives small triangular shape to the face.
* Impaired hearing due to spinal nerve compression.
* Femur and tibia tend to bow producing a waddling gait.
* Pain, tenderness and warmth at the site.
* The pain is mild to moderate, aching, increases with weight bearing if the lower extremities are involved.
* Increased temperature due to increased vascularity over the affected area.
* Patients with large, highly vascular lesions may develop high output.
* Cardiac failure due to due to increased vascularity and metabolic demand.

**DIAGNOSTIC EVALUATION**

* X ray
* An elevated level of serum alkaline phosphatase concentration & urinary hydroxypzroline excretion reflect increased osteoblastic activity.
* Aminotransferase levels in adults are also increased.
* Patients have normal blood ca levels.
* Local areas of demineralization shows mosaic patterns and irregularities.
* Bone scans demonstrate the extent of disease.
* Bone biopsy may aid in differential diagnosis.

**Medical management**

* Walking aids, shoe lifts & physical therapy.
* Reduce weight to reduce stress on weakened bones.
* Asymptomatic patients may be managed with diet adequate in calcium and vit. D
* Fractures are managed according to location.
* Joint replacement in case of degenerative arthritis.

**PHARMACOLOGICAL MANAGEMENT**

* NSAIDs
* Antiosteoclastic therapy
* **Calcitonin,** a polypeptide hormone retards bone resorption by reducing number of osteoclasts.

It also facilitates remodeling of new bone

It is administrated subcutaneously or by nasal inhalation.

* **Biphosphates** produce rapid decrease in bone turnover.

It also helps to reduce serum alkaline phosphatase.

* **Plicamycin (Mithracin)** a cytotoxic antibiotic is mainly used in the patients with neurological compromises & resistant to other therapy, decrease pain.

**Complications**

* Bone fracture
* Osteoarthritis
* Osteosarcoma
* Heart failure
* Hypercalecemia
* Kidney stones
* Hyperparathyroidism
* Hearing loss

**Submitted by:**

Komal Rana

Clinical Instructor