**Osteoporosis**

**Topic1**

Osteoporosis literally refers to porous bones. The condition compromises the bone strength which comprises of both bone quality and bone mass. It mainly occurs when peak bone mass is not achieved due to genetic factors, physical activity, and hormonal factors. Bones become weak due to porosity, and in thus they risk fracturing. This risk is high especially if the condition affects the spinal vertebrae, the hip bone or the wrist which are involved in strenuous activities. This paper will discuss various medical conditions, their evaluation, and treatment.

Risk factors for osteoporosis condition include one’s sex, race, age, lifestyle choices, family history. Women are more prone to osteoporosis than men. The same applies to older people who are at a higher risk of developing osteoporosis. Whites, as well as those of Asian descent, are more likely to get osteoporosis than other races. Osteoporosis is also more likely to be experienced by people with low levels or high levels of certain hormones (Cembrowicz & Allain, 2011). For instance, people with low levels of sex hormones develop weak bones. Thyroid hormone when in high quantity can lead to bone loss. Use of steroids interferes with bone development process making them vulnerable. Pathogenesis of fracture due to osteoporotic traits can be summarized as; first, failure to achieve peak bone mass leads to low bone mass which consequently results to fracture when strained. Secondly, post-menopausal bone loss or osteoporosis occurs after menopause in women due to a deficiency of estrogen hormone which predominantly affects the trabecular bone. The other pathogenesis is referred to as type II bone loss (osteoporosis) which is age-related. It mainly causes hip fractures due to the predominant forfeiture of the cortical bone primarily due to a condition referred to as secondary hyperparathyroidism. Clinical manifestations of osteoporosis only occur when a fracture is experienced. Diagnosis may be of incidental findings on abdominal or chest radiographs. The clinical manifestation of fractures of symptomatic vertebral includes height and pain loss. Evaluation of osteoporosis involves laboratory tests in which various parameters can be determined such as chemical analysis of serum which can present clinical factors that influence bone density (Cembrowicz & Allain, 2011). Such conditions that can affect bone density include; hypogonadism, deficiency in vitamin D, and hyperthyroidism. Other clues can be complaints of mid-thoracic or upper back pain which is associated with an extended period of sitting or activity. The evaluation should also include a thorough physical examination and medical history as well as radiographic. The condition can be prevented by one observing a proper diet constituting of proteins, calcium, and vitamin D. regular exercise also is vital for keeping bones strong and healthy. Weight management is another way of preventing osteoporosis conditions. The treatment of osteoporosis can include intake of vitamin D and calcium. Raloxifene, Denosumab, and Ibandronate among other medications can be used to treat the condition. Kyphoplasty and vertebroplasty can be used to treat spine fractures.

**Topic 2**

Gastroesophageal reflux is a condition whereby the gastric reflux contents in the gullet provokes complications. Symptoms of this condition include regurgitation and heartburn. It is also related to asthma, laryngitis, and chronic cough. The pathogenesis of this condition is multifactorial such that it involves relaxation of the sphincter of the lower esophageal. As a result, bile pepsin, and reflux of acid occurs which leads to mucosal injury of the esophageal. Evaluation of GERD can be made using clinical history such as patients with dyspepsia. PH monitoring is also helpful in confirming the diagnosis of GERD. Additionally, the omeprazole test can prove beneficial too. This test is considered as diagnostic and therapeutic. Upper endoscopy can be used in diagnosing GERD (Vela, Richter & Pandolfino, 2013). Treatment can involve medications that heal the esophagus such as omeprazole (Zegerid OTC) and lansoprazole. Anti-acids such as Rolaids, Tums, and Mylanta. Surgery procedures can be used to avoid long-term prescription. Clinical manifestation of peptic ulcers may be accompanied with gastrointestinal symptoms or dyspeptic. They may also be accompanied with perforation or hemorrhage or asymptomatic. Evaluation should involve esophagogastroduodenoscopy if therapy proves to be incomplete. Bioscopy and bioscopy should be carried out to eliminate malignant diseases. Treatment can include nitro-imidazole and tetracycline medications. Gastritis is a condition which results from inflammation of the lining of the stomach due to mucus weaknesses that protect the walls of the stomach leading to digestive juices acting on these walls. Diagnosis can include H. Pylori tests, endoscopy, and x-ray. Treatment can involve medications such as antibiotics, those that prevent acid production, and antacids among others.

In conclusion, various medical conditions such as osteoporosis, peptic ulcers, GERD, gastritis among others can be controlled by either medication or surgery. Some have similar diagnostic procedures such as endoscopy in Gastritis and peptic ulcers.

**References**

Cembrowicz, S., & Allain, T. (2011). *Osteoporosis*. London: Class Publishing.

Vela, M., Richter, J., & Pandolfino, J. (2013). *Practical manual of gastroesophageal reflux disease*. Chichester, West Sussex: Wiley-Blackwell.