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NEWSLETTER

Winter 2007

AUCKLAND Bonedensity
Managing Bone Health

DIABETES and BONES

GLITAZONES and FRACTURES

Glitazones (thiazolidinediones) decrease bone formation and bone mass, and increase fracture rates.

Glitazones are insulin-sensitizing drugs used for treatment of type II diabetes mellitus, which act by activating the PPAR gamma nuclear transcription factor. This transcription factor plays an important role in the development of osteoblasts, the bone forming cells, such that when it is activated, osteoblast development is inhibited. It has been known for some years that treatment of animals with these drugs inhibits osteoblastic bone formation and decreases bone mass. Recent clinical studies have demonstrated that both of the currently available glitazones, rosiglitazone (Avandia™) and pioglitazone (Actos™), inhibit bone formation and accelerate bone loss in humans. Review of adverse events data collected during randomized controlled trials of each of these drugs has demonstrated an increase in the rate of peripheral limb fractures in women with type II diabetes exposed to the glitazone.

Type II diabetes mellitus is already associated with an increased risk of fracture, and this is likely to be accentuated by superimposition of additional risk factors, such as treatment-induced bone loss. There is now strong evidence that glitazones exert detrimental skeletal effects in humans. The diabetic patients at greatest risk of glitazone-induced skeletal toxicity are postmenopausal women and those with other classical risk factors for osteoporosis, such as low body weight, cigarette smoking, previous fracture and family history of fracture. Consideration of fracture risk should be undertaken in patients for whom glitazone therapy is being considered, and measurement of bone mass undertaken if clinical risk factors are present. If bone mass is low in the presence of clinical risk factors for osteoporotic fracture, treatment to prevent fractures should be instigated at the time that glitazone therapy is commenced.

DRUGS and INCREASED FRACTURE RISK

Be Alert -

Prednisone
Antiandrogens (e.g., Zoladex, Flutamide, Cyproterone Acetate, etc).
Aromatase Inhibitors (e.g., Arimidex, Femara, Aromasin)
Glitazones (Avandia and Actos).
Anticonvulsants.
Excess thyroxine.
Cyclosporin.

These groups are all associated with exaggerated rates of bone loss and increased fracture risk.

AUCKLAND BONE DENSITY NEWSLETTER

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AUCKLAND Bonedensity Managing Bone Health

STATEMENT

Fosamax Plus® /Vitamin D
From
Auckland Bone Density Specialists

Fosamax Plus® provides 400IU of cholecalciferol per day, a dose which is inadequate alone to maintain satisfactory 25 (OH) vitamin D levels. We recommend that patients continue to take a monthly Calciferol tablet (50,000 IU = 1.25mg) when taking Fosamax Plus®. The risk of vitamin D toxicity is extremely low and serum calcium levels do not need to be checked.

MSD VOUCHERS FOR FREE DEXA SCANS

MSD will fund DXA scans for patients who:

- Have one radiographic proven fracture.
- Have no medical insurance and are financially unable to fund a scan themselves.
- Would have an unacceptably long wait for a state funded DEXA scan.
- The doctor considers that FOSAMAX PLUS® may be a suitable treatment option.

MSD will NOT fund DEXA's for:

- Patients who have had more than one radiological fracture.
- Patients over the age of 75 years.
- Patients with one osteoporotic fracture who have been taking glucorticosteroid therapy for more than 3 months.

Whilst DEXA measurements are medically beneficial, these patients do not need a DEXA to be eligible for FOSAMAX PLUS®.