

## Osteoporosis, Importance for Early Diagnosis and Treatments

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### Abstract

The prevalence of osteoporosis in a large population of old people is a serious healthcare and social burden globally. Generally, early diagnosis and treatments against gradual bone-mineral losses in old people can improve the clinical symptoms, outcomes and mortality significantly. The high quality and efficiency of osteoporosis diagnosis, interventions and therapeutics is very important for better managements of osteoporosis in the clinic. This editorial aims to provide latest information for this medical discipline of medical disease.

**Keywords:** Osteoporosis; Drug Development; Cost-Effective; Diagnostics; Disease Risk; Drug Selection; Bone-Disease

### Introduction

The prevalence of osteoporosis in old people is a serious healthcare and social burden globally [1]. Osteoporosis-induced bone-fracture (especially hip-fracture) and immobility in the bed has high possibility of human mortality. Due to huge medical significance for osteoporosis prevention, treatments and overall therapeutic costs to a great number of patients, many clinical interventions and therapeutics are commonly utilized.

### Impaired bone condition and its associations with human mortality

Impaired bone condition (osteoporosis) is associated with human mortality. In order to better serve to osteoporosis people in the clinic, early diagnosis and intervention is indispensable [2].

Since there is no reliable physics-based diagnostic systems (currently widest utility in osteoporosis diagnostics) can 100% predict the events of potential bone-fracture, especially hip-fracture, other biochemical diagnostics may join-hands with physics based instruments. Some biochemical diagnostics (such as blood glucose level, urinal substance, hormonal levels in blood and so on) may be a new line of osteoporosis risk prediction and targeted therapeutics for bone-fracture therapeutics in the future. Balanced diagnostic systems and paradigms may be more reliable for diagnostic-therapeutic interventions.

### Therapeutic selections

Osteoporotic intervention and treatments are divided into different categories:

1. Food supports and life-styles
2. Chemical products and compounds (inorganic, synthetic and natural)
3. Bio-agents (fish calcitonin and others)
4. Herbal medicines (western and eastern publications)
5. Therapeutic combinations [3-5].

To promote therapeutic benefits, deeper understanding the association between diagnosis and treatments are suggested. Without further work, a large number of new drugs or therapeutic options cannot be found out.

### Therapeutic combination in the clinic

Therapeutic combination is a famous paradigm for many refractory and chronic diseases, such as HIV/AIDS and late-stage cancer patients [6-8]. In the future, more therapeutic combination paradigms will be established from clinical verification.

In the clinic, many osteoporotic therapeutics are derived from drug combination, such as calcium tablets + Vitamin D<sub>3</sub> or calcium tablets + calcitonin. Accordingly, we shall focus on the scope of this discipline in the future. This is an open question for further study.

### Conclusion

A lot of efforts can be carried out for patho-therapeutic association study. Expanding clinical osteoporotic therapeutics and cost-effective evaluation is important and indispensable.

In summary, therapeutic selection in the clinic may be promoted via above-mentioned pathways. Additionally, novel drug developments and mechanisms of candidate drug targets will continue to be carried out in the future.

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