

## Clinical Treatments of Osteoporosis, how to Target Co-Morbidities

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### Abstract

The prevalence of osteoporosis in a large population is a social burden globally. Generally, early diagnosis and treatments can improve the clinical therapeutic outcomes in the clinic. However, osteoporosis symptom is co-morbidity with many other types of human diseases (mainly metabolic symptoms and diseases). This editorial shares our new insights and perspectives on different areas of this medical problems.

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

### Introduction

#### General scenario of disease prevalence and therapeutic limitations

The osteoporosis is a major human healthcare problem throughout the world [1-4]. More seriously, osteoporosis-induced hip/foot-fracture and human immobility will gradually transform into human mortality. Many preventive and therapeutic convention are commonly recommended against human beings with osteoporosis. Nonetheless, patients with osteoporosis are commonly co-morbidity with many other types of human diseases (mainly metabolic symptoms and diseases). To promote the quality of further osteoporosis treatments, may we suggest considering this clinical situation in the future.

#### Disease diagnosis systems and further updating

Currently, no diagnostic system is well predicable for disease progress and human mortality. Many biochemical systems are also useful for disease diagnosis and treatments [2,3]. Blood glucose and hormonal levels may be new parameters for osteoporosis risk prediction in the future [4]. Balanced diagnostic and therapeutic systems and paradigms are more powerful for disease interventions.

#### Current therapeutics

##### Available therapeutics [4]

1. Food or nutritional fortification (mineral, proteins and vitamin) [5].
2. Life-styles notification (sun-bath, regularly physical exercises and others).
3. Chemical substances, compounds and pharmaceutical agents [6-8].
4. Bio-agents [9].
5. Herbal medicines (different types of western and eastern publications-allopathic (western), Ayurveda system of medicine (India) and traditional Chinese medicine) [10].
6. Therapeutic combinations [3,4].

#### Disease co-morbidity and therapeutics

##### Pathological mechanisms

Patients with osteoporosis are commonly co-morbidity with many other types of human diseases (mainly metabolic symptoms and cardiovascular risks and diseases) [11-13]. To promote the quality of further osteoporosis treatments, may we suggest to consider this clinical situation in the future.

##### Drug combination or others

In the clinic, many anti-osteoporotic therapeutics are derived from drug combination [3,4]. This may be a well reason for therapeutics against a lot of refractory diseases, co-morbidity and human mortality [14-16].

### Pharmacotherapy and drug developments

In order to design better therapeutic options, how to target osteoporosis and co-morbidity is the key. Integrated therapy development or whole-disease diagnosis/evaluation systems prove to be a good pathway to achieve better clinical beneficial outcomes. Future scientific researches must be carried out.

### Conclusion

In summary, therapeutic improvements and selections may be achieved via above-mentioned pathways and understanding. Additionally, the study of novel drug mechanisms will answer our question of whether new series of therapeutics can be invented and help more patients in need.

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