Bone Disease Treatment Study, Major Pathways

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Received: February 22, 2021

Published: March 10, 2021

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Abstract

Bone disease treatment is very important worldwide. At present, drug development, surgery and instrument are major pathways for therapeutics. Until now, several pathways are widely used in the clinic. This editorial provides biomedical information and pathways for bone disease treatments.

Keywords: Osteoporosis; Drug Development; Folk Medicine; Technology; Pathology; Modern Technology; Acupuncture; Bone-Disease

Introduction

Bone disease diagnosis, interventions and therapeutics requires new breakthroughs [1-9]. It needs different therapeutic strategies, magic bullets and paradigms [3-12]. Different aspects of pathology, therapeutics and technology are unevenly progressed. Their developmental insights are discussed in this editorial.

Major pathways

Conventional therapeutics

Drugs, surgery and assistant therapies are usual medications for bone disease treatments [13-18]. They have a long history and widely practiced in the clinic. However, these kinds of therapies loss their momentum due to lack of long-sustained financial supports and high threshold for therapeutic translations.

Technology development

The fastest path in future is technical adaptation and renovation [19]. It represents in different therapeutic modality and technical versatility [19-26].

- Drug development in low cost and toxicity (computer-aid drug design and molecular assessments)
- Digital tool in diagnosis and disease analysis
- Surgery assistance or automation by computers (3D printers of bone tissues, joint and others)
- Supportive techniques (movement assistance and prosthetic limbs)
- Artificial intelligence
- New materials (inorganic, organic and bio-materials for dead bone replacement).

Traditional chinese medicine (TCM)

Folk medicine still has its territories in bone disease treatments [27], such as acupuncture [28], herbal plaster and medicine [29,30]. By these traditional medications, clinical orthopedic treatments will be improved without the necessity of high costs of treatments and nursery.

Major therapeutics in China [27-30]

- Massage
- Acupuncture
- Herbal plaster
- Herbal medicine

Conclusion

There are many diagnostic and therapeutic options and approaches in bone study. With the rapid development of diagnostic and therapeutic versatility for bone diseases, we should expect new surprise and breakthroughs in the future.

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