

Bone Disease Recovery Strategies, An Overview

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Abstract

Human bone is one of the most vulnerable tissues in human bodies. After formal surgery or other radical treatments, bone disease recovery take parts important roles for people with bone diseases. High quality bone disease diagnosis, interventions and therapeutics is an important area for updating symptom alleviation and risk management strategies in the clinic worldwide. This editorial highlights this discipline of pharmacological and therapeutic significance.

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

Introduction

Human bone is one of the most vulnerable tissues in human bodies. In the life-time of a lot of people, bone tissue is commonly experienced with bone fracture and other bone pain symptoms especially in sports activity [1,2]. The prevalence of osteoporosis in senile and disable people is a health problem worldwide. After formal surgery or other radical treatments, bone disease recovery take parts important roles for people with bone diseases [3-5]. High quality bone disease diagnosis, interventions and therapeutics is an important area for updating symptom alleviation and risk management strategies in the clinic worldwide. This editorial highlights this discipline of pharmacological and therapeutic significance.

Overview of diagnosis and therapeutics

Osteoporosis-induced human disable and other bone diseases is one of the leading causes for morbidity and mortality of senile patients. To Achieve better recovery and therapeutic outcomes, early diagnosis, instruments, life-style notification and proper therapeutic intervention is indispensable [5]. Timely and high-quality strategies among instrument, life-style, pharmacologic intervention and drug developments are all indispensable.

Major arguments

Bone disease recovery strategies need multidisciplinary care and therapeutic drugs-mainly coverage of both life-style and drug interventions. Balanced diagnostic systems and pharmacologic paradigms may be more reliable for diagnostic-therapeutic interventions.

Therapeutic selections

Bone impairment recovery and treatments are divided into several categories:

- 1. Instruments (light or temperature control)
- 2. Life-style (frequent of sunbath)
- 3. Personal assistance (cane supports or wheel-chair)
- 4. Food supports and composition controls (vegetables, fruits, seed/nuts, seafood and others)
- 5. Chemical products and compounds (inorganic, synthetic and natural)
- 6. Bio-agents (fish calcitonin and others)
- 7. Herbal medicines (western and eastern publications)
- 8. Therapeutic combinations [3-5].

To promote therapeutic benefits, deeper understanding the association between pathology and pharmacological treatments are suggested.

Drug categories and developments

Therapeutic drugs can be classified as following categories [6-10]. In the future, more drugs will be developed and clinical validity.

Drug development directions	Major targets	Clinical applications
Mineral	Bone composition	Bone composition support
Vitamins	Mineral absorption	Bone cell growths
Synthetic compounds	Genes or molecules	Bone disease treatments
Natural chemotherapy agents	Wide-range of biological activity	Disease and foods
Herbal medicine	Diversity	Disease intervention
Biotherapy	Bone hormone and molecules	Bone functions
Pharmaceutical	Drug stable	Drug function and cost reductions
Pharmacogenomics	Drug dosing	Drug efficacy and toxicity
Drug combination	Each possibility	Therapeutic promotions

Table 1: Present drug categories and therapeutic studies.

From these drug types and categories, drug with low undesired side-effects are especially welcome. Certainly, drug or therapy combination are also widely utilized for bone-disease recovery and treatments.

Co-morbidity

Co-morbidity is a common character of most chronic and metabolic diseases-including some kinds of bone diseases [11-19]. Previously, we ask this question of key pathological and pharmacologic significance. In the future, growing body of this biomedical researches will be expanded.

Conclusion

Patho-therapeutic relation of bone diseases must be found out and translated new discoveries from bench to the bedside. Expanding clinical therapeutics and cost-effective evaluation is important and indispensable [19-21]. Apart from drug development, medical instruments and technologies that can help patient recovery must also be promoted in the future.

Bibliography

- 1. Melton J. "Hip fracture a worldwide problem today and tomorrow". Bone 14.1 (1993): S1-S8.
- 2. Silva DMW. "Diagnosis of osteoporosis bone mineral density, risk factors, or both". EC Orthopaedics 9.7 (2018): 500-502.
- 3. Lu DY., et al. "Osteoporosis in old women, therapeutic selection". EC Orthopaedics 9.7 (2018): 386.
- 4. Choudhary D and Alam A. "Anti-osteoporotic activity of bioactive compounds from Iris germanica targeting NK-Kappa B". *EC Pharmacology and Toxicology* 6.8 (2018): 665-678.
- 5. Lu DY, et al. "Osteoporosis, importance for early diagnosis and treatment". EC Orthopaedics 9.9 (2018): 624-625.
- 6. Khan N and Khatosh S. "Use of vitamin D supplements in Middle East countries: The need of the hour". *EC Nutrition* 13.9 (2018): 596-599.
- 7. Wong MH., *et al.* "Bisphosphonates and other bone agents for breast cancer". *Cochrane Database of Systematic Reviews* 2 (2012): CD003474.
- 8. Lu DY., et al. "Discover natural chemical drugs in modern medicines". Metabolomics 6.3 (2016): 181.
- Disha Choudhary and Afroze Alam. "Anti-osteoporotic activity of bioactive compounds from Iris germanica targeting NK-Kappa B". EC Pharmacology and Toxicology 6.8 (2018): 665-678.
- Parasuraman S. "Herbal drug discovery: challenges and perspectives". *Current Pharmacogenomics Personalized Medicine* 16.1 (2018): 63-68.
- 11. Putta S., *et al.* "Diabetes mellitus and male aging, pharmacotherapeutics and clinical implications". *Current Pharmaceutical Design* 23.30 (2017): 4475-4483.
- 12. Zimmet PZ., et al. "Diabetes a 21st century challenge". Lancet Diabetes Endocrinology 2.1 (2014): 56-64.
- 13. Fuchs S., *et al.* "Disease management programs for type 2 diabetes in Germany a systematic literature review evaluating effectiveness". *Deutsches* Ärzteblatt *International* 111.26 (2014): 453-463.
- 14. Lu DY., et al. "Obesity, risks and managements". Metabolomics 8.1 (2018): e155.
- 15. Lu DY., et al. "An overview of obesity". Metabolomics 8.2 (2018): 200.
- 16. Lu DY., et al. "Type 2 diabetes study, introduction and perspective". The Open Diabetes Journal 8 (2018): 13-21.
- 17. Lu DY., et al. "Type 2 diabetes treatment and drug development study". The Open Diabetes Journal 8 (2018): 22-33.
- 18. Lu DY., et al. "Clinical treatments of osteoporosis, how to target co-morbidities". EC Orthopaedics 9.11 (2018): 781-782.
- 19. Penalvo JL., *et al.* "The potential impact of food taxes and subsidies on cardiovascular disease and diabetes burden and disparities in the United States". *BMC Medicine* 15 (2017): 208.
- 20. Roberts S., *et al.* "Economic evaluation of type 2 diabetes prevention programmes: Markov model of low- and high-intensity life-style programmes and metformin in participants with different categories of intermediate hyperglycaemia". *BMC Medicine* 16.1 (2018): 16.
- 21. Lu DY., et al. "Stable and cost-reduce for drug development of bio-molecules". EC Pharmaceutical Science 3.1 (2018).

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