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EC ORTHOPAEDICS
Mini Review

Bone Disease Treatments, Math-Therapeutic Modality

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Received: January 10, 2019; **Published:** February 27, 2019

Abstract

Human bone disease is an acute or chronic human disease among large human populations. Bone fracture, osteoporosis, bone cancers, bone metastasis and many others are frequently occurred in the clinic. To reduce pains and chronic symptoms, different drugs and therapeutic options have been widely utilized in the clinic. However, these types of bone-disease therapeutics need experienced doctors to practice. A lot of young and remote doctors cannot effectively choose different therapeutics. In order to improve this situation, mathematical or computational systems (artificial intelligence, AI) may be useful for these inexperienced doctors. Following pathways may be something usefulness for AI establishments and teach medical students in the college.

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

Introduction

Human bone disease is an acute or chronic human disease among large human populations [1]. Bone fracture [2], osteoporosis [3,4], bone cancers, bone metastasis [5-7] and many others [8] are frequently occurred in the clinic. To reduce pains and chronic symptoms, different drugs and therapeutic options have been widely utilized in the clinic. However, these types of bone-disease therapeutics need experienced doctors to practice. A lot of young and remote doctors cannot effectively choose different therapeutics. In order to improve this situation, mathematical or computational systems (artificial intelligence, AI) may be very useful for these inexperienced doctors. Following pathways may be something usefulness for AI establishments and teach medical students in the college.

Mathematical Methodology

Bone disease 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 [1]. In order to build-up efficient AI systems, gradual data collection, new equation establishments, diagnostic data integration and final decision-making system are required [9,10] (Table 1). To complete this work, the joint-efforts of medical doctors, mathematicians, biomedical technicians, pharmacologists and patients are equally important [11]. More recently, seeking medication from multi-disciplinary is pervasive to broader-range of disease categories [10-12]. However, there is a long way to go [10-15].

System buildup stages	Mathematical methodology
Algebra data	Psychoanalysis and bioinformatics
Descriptive statistics	Data collection
Inferential statistics and description	Iterative, matrix
Mode building	Methodological selections
Drug evaluation data	Balance and integration
New equation and computations	Theorem establish
Workable AI	Association with computers

Table 1: *Outlook for computational network and AI system in the future [10].*

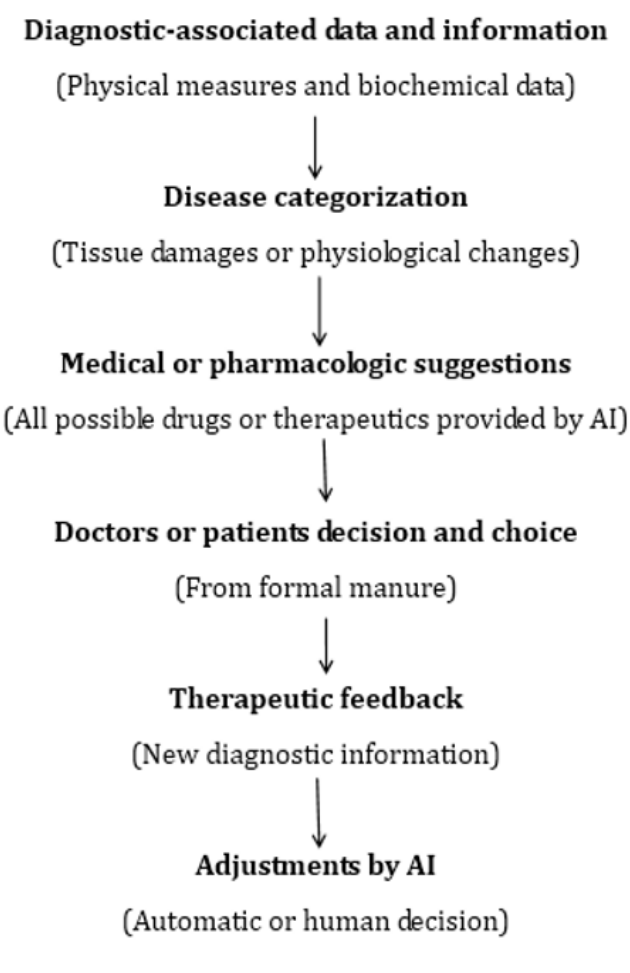

Figure 1: *Patho-therapeutic relation for bone disease AI treatments.*

Major Arguments

The excellent AI system in the future will be an important gift that can have far-reaching impacts on bone disease treatments. Balanced diagnostic systems and pharmacologic paradigms may be more reliable for diagnostic-therapeutic interventions [16]. Mathematical or computational network and systems for medical purposes will make a great difference because growing scientists and mathematicians jointly investigate interesting medical topics and clinical paradigms. Logically, digital doctors can strengthen clinical trials and save medical labors. At that time, therapeutic costs and quality may be improved and available for more patients.

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 [1].

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

Financial competitions

A lot of different AI systems may be developed (good performance or bad performance). Certainly, financial competition and confidential will be a universal topic. How to regulate these financial competition and interests is an important topic. Healthy medical development is indispensable. This tough question remains to be resolved in the next decades.

Conclusion

It is the time to finalize AI or digital doctors in clinical bone disease treatments. To achieve this therapeutic miracle, cooperation of experts from multi-disciplines (excellent teamwork) is helpful and indispensable.

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Volume 10 Issue 3 March 2019