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Research Article

Bone Surgery with Bone Anatomy Analysis

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Abstract

Bone diseases surgery with cutting-edge technology guided by anatomic analysis is more promising in the future. In order to update these medical practices, new therapeutic ideology and technical capability must be established. It contains bone formation, size control, surgery options and many others.

Keywords: *Bone Surgery; Bone Anatomy*

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 pain symptoms especially after sports activity, constant hard labors and different arthritis [1-8]. In order to update these medical practices, new therapeutic ideology and technical capability must be established. More recently, new biomedical problems are emerged. In this editorial, we will discuss them in brief. It contains bone formation, size control, surgery options and many others.

Methods

Bone disease commonly needs a long term of physiological recovery and different scale of surgery. In search for new surgery solutions for bone diseases, surgery, pharmacotherapy and cutting-edge technology utility is the main choice for bone disease treatments. Among these modern technology bone tissue replace is very promising [9-15].

Suitable for different patients

The origin of different bone diseases and treatments [13]:

1. Intense sports activity and bone injury
2. Constant hard labors
3. Bone cancer
4. Frailty fracture
5. Bacteria or other types of infection
6. Different arthritis and other complications

To treat these different bone diseases, surgery or pharmacotherapy must be utilized.

Results

In many bone disease treatments, some bones are greatly damaged or deformation (break to a lot of small pieces, bone deaths or deformation), artificial bones (many alloy bones are available) will be replaced. There are many new attempts in clinical bone disease treatments. However, the artificial bones are difficult to make, very expensive to personalize and uncommon in clinical settings until now.

Major artificial bone matrix [11]

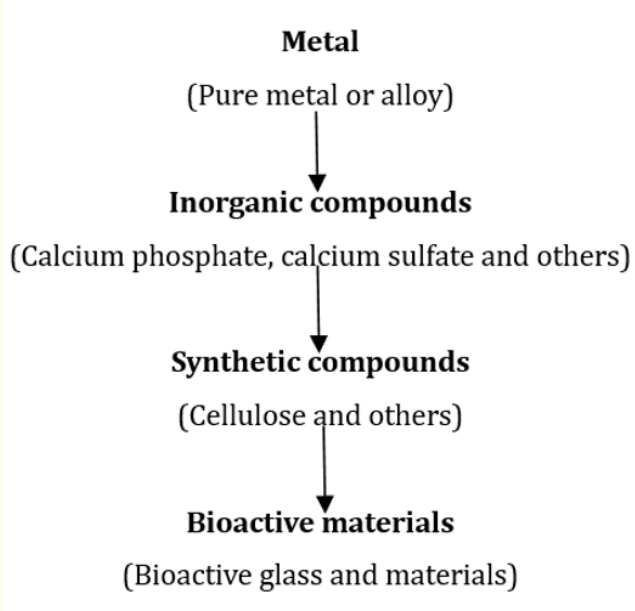

Figure 1: *The development of artificial bone materials.*

Why do we present with this progressive scheme? Metals or alloys are strong in force but more resistance from human bodies. Presently, majority of clinical practice is used with these materials. Generally, we need to change this modality and utilize more ranges of biomaterials. This process will be guided for future therapeutic studies.

Artificial intelligence (AI)

New methodology may change the fate of anatomic study in bone disease treatments [15-17]. It may be only a buzzword (AI) without scientific pathways for moving forwards. Anatomic study of bone disease treatments by AI may gradually deepen these researches. Welcome mathematical specialists for joining in may be very helpful [18,19]. Apart from that, we propose this scheme of mathematical modality establishments and clinical applications.

Technical merges

Technical and medical merge is a commonplace in modern medicine [20-23]. We shall adhere with these kinds of medical merge of both technology and disciplines as a future trend [24,25]. That includes above-mentioned ways. Given with this new trend, we may achieve many unexpected successes in bone disease treatment and surgery.

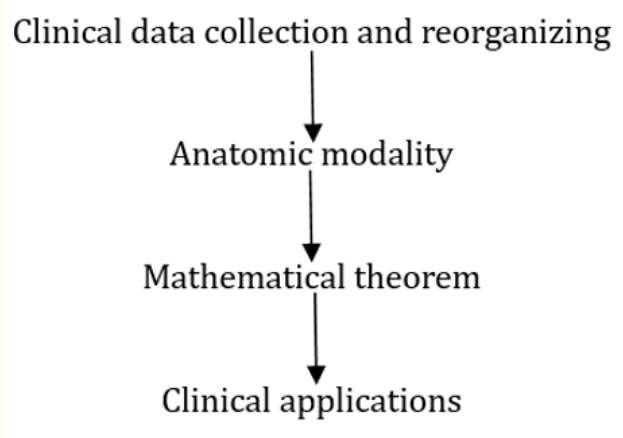

Figure 2: *Mathematical and anatomic cooperation.*

Discussion

Presently, a systematic approach has been made for replacing broken bones with artificial bones. Rheumatic arthritis can undergo a long process of bone deformation. Among these deformed bones, we cannot simply replace with normal or pathological bone, some adjustments are needed. Patients with bone diseases are greatly different in physiological characters (human size, height and bone locations). Each bone has different in anatomic patterns and pathologic styles. The artificial bone producers may be difficult to provide all these different products. As a result, different sized bone materials will be manufactured for different purposes. In order to do so, many anatomical information and study is required.

Conclusion

Replaced bones have a lot of different characters and functionality (compositions and physical strengths). From these different therapeutic purposes, a great anatomical study and artificial intelligence capability will be improved and widely utilized worldwide.

Conflict of Interests

None.

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