A Brief Review on the Clinical Applications of Anatomy

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Abstract: Anatomy has its own diverse applications in medicine, surgery and dentistry which is made possible through its various forms like surface anatomy, gross anatomy and osteology, embryology, histology, radiological anatomy and cytogenetics. These various subsets of anatomy amalgamate into various other medical and surgical disciplines and provide a platform for innovative surgical research, which has been highlighted by the authors in this article

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I. Introduction

Anatomy, as a subject, is not just a piece of literature but includes a vast genesis of surgery in its entirety. In its true form, anatomy is said to predate surgery and was considered to be the predecessor of surgery at one point of time in history, until it's surgical counterpart deviated away from it due to the necessitating advancements in medical science and technology(1-4). However, the research oriented nature of anatomy has retained its true form even to the present day(3-5). Though a lot has been said that the value of anatomy has decreased owing to its teaching focussed nature, there is still a lot of potential in it as a research primed subject which can extend its wings to any branch of medicine or surgery whenever an in-depth mechanism based study needs to be done, either at the molecular level or at the surface level(1-3).

II. Brief Review

Anatomy can be applied to any field of medicine, surgery or dentistry through its various wings that include- surface anatomy, osteology, gross anatomy, radiological anatomy, histology, embryology and cytogenetics(4-7). Surface anatomy includes the marking and delineation of points or lines over the external surface of a cadaver for the purpose of locating vital structures within the body which will be of great help to the surgeon or physician in performing practical therapeutic or diagnostic procedures(4,5). Osteology includes not only the study of the structure of bones per se, but also the typing of bones based on their age, sex, and racial components at a molecular level that is aptly dealt with in cytology, which in turn is a part of histology(3-7). At the level of the nucleus, an apt understanding of the number of chromosomes and their aberrations through...
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karyotyping, and the structure of the nucleoid through electrophoresis techniques like the comet assay are all dealt with in cytogenetics, which essentially is a part of anatomy(6,7).

Having so many clinical applications, human anatomy can no longer be said that it's just a teaching modality, but rather it is a major research "junction box" with all the necessary tools required for a systematic clinical study, thus serving as a clinical guide apart from teaching.

References