Popular Article

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Importance Of Veterinary Anatomy in Veterinary Education

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Introduction

Veterinary Anatomy is one of the core basic science courses in veterinary curriculum. Despite the uncontested importance of anatomy as one of the foundational aspects of undergraduate veterinary programs, there is still limited information available as to why anatomy knowledge is most important for the graduate veterinarian in their daily clinical work. This article aims at providing a deeper understanding of role of anatomy in veterinary practices.

Veterinary Anatomy and its importance

The term anatomy derives from the Ancient Greek word, 'anatemnein' in which *ana*, mean "to separate or apart from", and *temnein*, mean "to cut open", so anatomy means to dissect or to cut apart. Veterinary Anatomy is a branch of veterinary science that deals with the study of forms and structure of living things. In its entirety, anatomy is subdivided into macroscopic (gross) anatomy, microscopic anatomy (histology) and embryology. Gross anatomy, the study of structures that can be dissected and observed with the unaided eye or with a hand lens, form the subject matter while the study of structures too small to be seen without a light microscope is microscopic anatomy. The study of the development of the individual from the fertilized oocyte to birth is embryology. In some of its facets modern anatomy is not only limited to mere description but also emphasizes the interrelations between structure and function as well as the application of anatomical knowledge in the clinical practices.

In the field of veterinary Science, the International Committee on Veterinary Anatomical Nomenclature (ICVAN),

appointed by the World Association of Veterinary Anatomists in 1957, published Nomina Anatomica Veterinaria (NAV) for domestic mammals in 1968. These terms, as revised in the fifth edition in 2005 (published on the Worldwide Web), serve as the basis for the anatomical nomenclature that is being used not only in anatomy, but in others specialties like pathology, medicine, surgery, etc.

Clinical application and surgical efficiency:

The solid anatomical knowledge is required by a veterinary physician to conduct thorough physical examination of the patient, refer proper clinical tests, diagnose and treat the disease by determining the exact root cause of the symptoms. The knowledge of anatomy is of utmost importance in the field of surgery to locate the landmarks for surgical intervention, orthopedics, nerve blocks, pain management, administration of anaesthesia, knowledge of exact anatomical sites for various incision procedures and diagnostics.

Radiological interpretation:

Recent and most advanced diagnostic imaging techniques such as radiography, ultrasound, endoscopy, CT scans and MRIs is pivotal in diagnosing and treating a wide range of medical conditions in animals, the interpretation of which requires a thorough knowledge of anatomical details of various structures of an animal body with specific species differentiation.

Patient Communication:

Effective communication with the animal patient's owner is a crucial aspect of veterinary healthcare services. Before the treatment begins, the veterinary physician should thoroughly explain the root cause of the disease, its treatment and possible outcomes to the

owner of the patient in order to satisfy him/her, and this can only be possible if the physician is well acquainted with the anatomical terms.

Physiological and pathological interpretation:

Anatomy is closely connected with physiology and pathology. Physiology explores the functions of different anatomical structures, while pathology examines the changes that occur in these structures due to disease processes. Without a strong anatomical foundation, grasping the complexities of physiology and pathology becomes significantly more challenging. The knowledge of Anatomy is required in carrying out necropsy of domestic and wild species of animals and in forensic studies of any vetero-legal cases to investigate the cause of the death of animal. the anatomical terms are used in nomenclature of any disease as well as defining the mechanism of disease prognosis and the possible pathological outcomes.

Archaeological studies:

The anatomical knowledge of domestic and wild species is duly required in the archaeological studies of animal fossils to identify the species and determine its age. The species identification depends upon thorough comparative studies of various bones and organs of different species which are generally taught to the under graduate veterinary students during first year of their course curriculum in Anatomy.

Selection of animals:

During selection of animals in a farm or purchase of animals from an animal fair, the anatomical knowledge is required to identify the best producing animals. Various external and internal anatomical parameters and records are to be kept in mind during selection of a good producing animal. All these activities are to be carried by a veterinarian; hence he/she should be well equipped with the knowledge of anatomy.

Future Specialization:

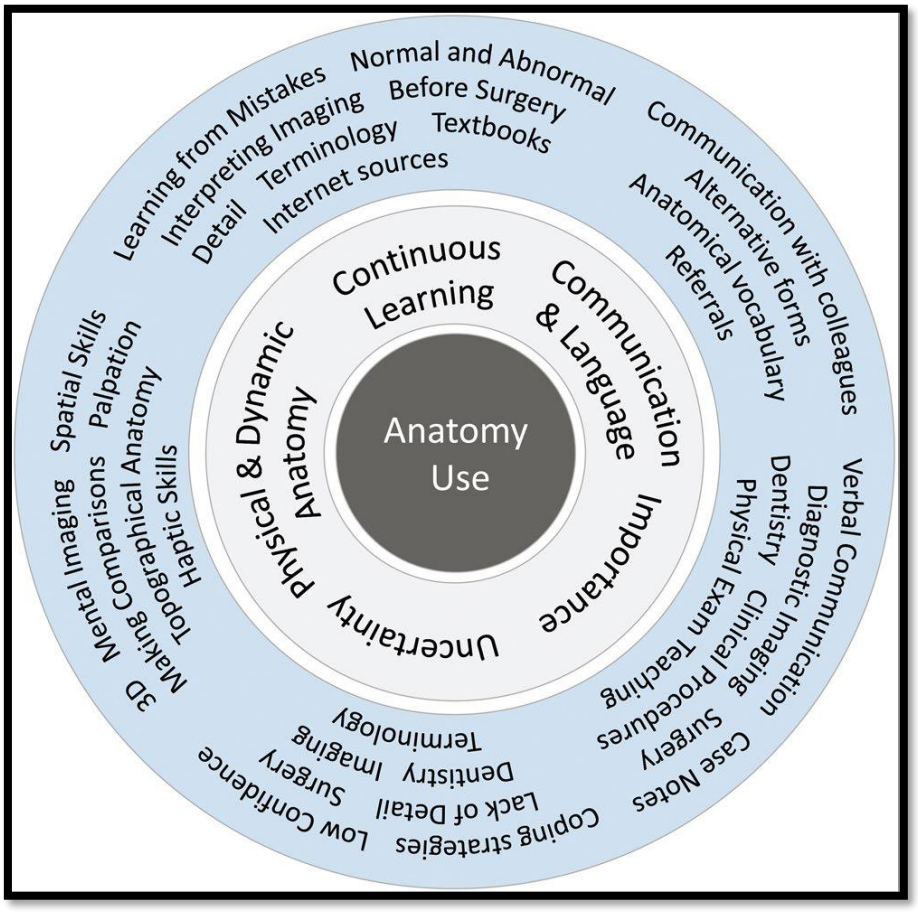
Anatomy plays a crucial role in several specialties. For sample, a veterinary gynecologist not only treats diseases related to the animals' genitalia but is also actively involved in artificial insemination of the animals to get an offspring of desired characters and traits in order to improve the future production and reproduction strategies. Having a powerful foundation in anatomy provides veterinary students to pursue specialized training in these domains, authorizing them to excel in their selected disciplines.

Research and Innovation:

Anatomy holds significance not only in clinical practice but also in research and advancements. Research studies frequently rely on the analysis of anatomical structures to comprehend disease mechanisms, develop new treatments, and advanced technology. Its role in research is vital for driving transformation and progress in veterinary field. Without a thorough understanding of anatomy, groundbreaking discoveries, and veterinary advancements would be limited.

Conclusion:

It can be concluded that anatomy plays an immense role as core subject in veterinary education which shapes the future of veterinary graduate in various aspects of professional life.



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