

Insertion of medial collateral ligament of the elbow joint in adult mongrel dogs

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Introduction: The medial collateral ligament (MCL) in dogs has the main function of preventing excessive or abnormal movement and maintaining the stability of the elbow joint. Proximal insertion is situated deep in the carporadial flexor muscle, attaching to the medial epicondyle of the humerus. Distal insertion of the MCL extends distally beginning at the distal cranial portion of the epicondyle, attaching to the medial proximal region of the radius. The reconstruction of the MCL has proven to be insufficient when using synthetic materials. Due to the scarcity of literature, it is necessary to study the insertion of the medial collateral ligament of the elbow of adult dogs, determining the arrangement of collagen fibers and cell types. **Methods and results:** Four elbow joints were used from four mongrel dogs over one year of age. The medial epicondyle of the humerus and the proximal epiphysis of the radius were sawn and the fragments, together with the medial collateral ligaments at their points of attachment, were immersed in Bouin solution. Histological sections were then stained with Hematoxylin-Eosin and the slides were analyzed and photodocumented with a digital camera coupled to an optical microscope. At the proximal insertion in the transition regions between the bone and ligament, the presence of collagen fibers set perpendicular to the bone was found in a greater quantity than at the distal insertion. Between the insertions, there were fibroblasts and chondrocytes, which are characteristic of fibrocartilage. At the distal insertion of the MCL, a large amount of fibroblasts were observed, along with the presence of collagen fibers in a discontinuous manner in relation to the proximal insertion. In both insertions, the fibrocartilage in the bone-ligament junction gradually blended with thick collagen of the periosteum and only spanned a short distance into the external layers of the cortex. **Conclusion:** Medial collateral ligament insertions are made up of tissues that are responsible for facilitating movements between the bones, offering resistance to tension and protecting the elbow joint.