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Abstract

The paper work was done on pieces from four adult specimens. They describe the articular surfaces, means of connection and additional items scapular-humeral joint, humeroradial, antebrahio-metacarpal and finger joints . Morphological similarities were confirmed with data from the literature but differential elements that have not been reported were identified and described.

Key words: *articulation, thoracic limb, pig*

INTRODUCTION

This case study aimed to perform a systematic and detailed description of the domestic pig thoracic limb joints, because in the literature there are still a number of insufficiently clarified issues. For example, discrepancies between authors concerning the collateral ligaments if there is an antebrahio-carpal articulation. (1,3,4,5). The main objective of this paper is to present the anatomical reality, demonstrated by images taken directly from the dissected parts. The authors generally noted and described morphologic similarities to the situation seen in ruminants. There are significant differences, the result of the growth and maintenance of the species, generally in areas which restrict the movement of animals. (2,6)

MATERIALS AND METHODS

Research has been conducted on joints from four adult specimens. They described the articular surfaces, means of contact and have photographed the most important elements. Description and homologation formations were performed according NAV – 2005.

RESULTS AND DISSUTION

In the case of the scapula-humeral joint it was observed that the tendon belonging to the brachial biceps muscle is included in the articulation for a distance of 3-4

cm, cranially united to the articular capsule with the help of the lax connective tissue.
Regarding the humero-radio-ulnar joint, the existence of a collateral medial ligament was established. It is formed out of three fascicles and the vertical one is included in the round pronator muscle.
Apart from the dorsal radio-pyramidal ligament and the collateral ligament, the antebrachio-carpal joint also includes a pisi-ulnar ligament and two funicular ligaments that are in contact with the profound side of the common palmar ligament, but incompletely enshrouded in the synovial membrane.
In the case of the medio-carpal joint (Fig.4) the means of connection are: a) scafo-unciform ligament, dorsally located; b) pisi-unciform ligament, laterally located; c) the strong fascicle belonging to the collateral medial ligament, medially located d) two strong ligaments in connection with the profound side of the common ligament, situated in the palmar area.

Fig. 1 Scapulo-humeral pig joint – medial side
1-biceps muscle; 2-anterior wall of the articular capsule; 3-capsular ligament; 4-scapula; 5-humerus.

Fig. 2 Articulaţia humero-radio-ulnară la porc –vedere medială
1-vertical fascicle of the collateral medial ligament; 2-anconeus muscle; 3-distal humerus extremity; 4-radius; 5-ulnar body.

Fig. 3 Humero-radio-ulnar pig joints-lateral side
1-anterior fascicle of the collateral lateral ligament; 1'-posterior fascicle of the colateral lateral ligament; 2- anconeus muscle; 3-articular capsule.

Fig. 4 Antebrachio-arpo-metacarpial pig joint – lateral side1-the long fascicle of the collateral lateral ligament; 2- pisiform; 3 –pisiulnar ligament ; 4- pisiunciform ligament; 5- pisimetacarpian ligament; 6- dorsal carpo-metacarpal ligaments

Beside the commune ligaments, thecarpo-metacarpal joint contains: a-three dorsal carpo-metacarpal ligaments; b-pisi-metacarpal ligament; c-trapezo-metacarpal ligament; d-some fibrous fascicles on the palmar side which can proximally be confused with the palmar ligament; they distally continue with the palmar metacarpial ligaments; e-two strong ligaments, interosseous.
Each metacarpo-sesamo-phalanxial joint contains: 1- a proper intersesamoidian ligament ; on the other hand there is an intersesamoidianinterdigital ligament between the main fingers; 2-two sesamoidian collateral ligament that are attached

on the lateral sides of the proximal termination of the proximal phalanx; 3- four distal sesamo- phalanx ligaments, from which two are cruciate ligaments and two are short ligaments, the abaxial one being more distinct; 4- two collateral ligaments – medial and lateral – each featuring the main fascicle and the accessory fascicle; 5- one dorsal reinforcement of the joint capsule, thick and fribo-cartilaginous in its'central part.

Between the proximal phalanges of the fingers there is the proximal interdigital ligament. Distal interdigital ligaments have a particular topography on unequal fingers. They will form a complex, in which we can recognize two transverse ligaments and four longitudinal ligaments.

CONCLUSIONS

The assembly of elements, now relatively simple represented in the scapular-humeral joint, humero-radio-ulnar joint and in the antebrachio- carpo-metacarpal joint become far more complex in the finger joints.

At the autopodium level, interosseous muscles, well represented and fleshy, form three fibrous cords originating in some ligament formations at the carp level, supporting the main fingers,.

The distal interdigital ligaments provide functional unity to the acropodium components and maximum resistance mechanical requests; this exceeds far beyond the one seen in ruminants.

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