

Unilateral ganglionectomy technique on the sheep's cranial cervical ganglion as a support for morphofunctional and quantitative studies

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Knowledge about the sympathetic ganglia structure and physiology are derived from studies developed on the superior cervical ganglion due to its large size, accessibility and target-organ complexity. Iatrogenic syndromes and diseases associated to the neck region can develop sympathetic disorders in humans and other superior mammals, directly or indirectly related to the cranial cervical ganglion (CCG) participation; Horner's syndrome is one of these syndromes presenting specific clinical signs as anisocoria, enophthalmus, eyelid protrusion, ptosis and face temperature increase. This syndrome was widely reported in Golden Retriever dogs although, no racial predisposing was identified. Iatrogenic Horner's syndrome in humans can be developed by varied conditions as neoplasias or cancers representing 60% of the cases. Cranial cervical ganglion surgical access knowledge will give support for further studies on morphophysiology and comparative neurology, mainly on animal husbandry. This study aimed to evaluate possible macro changes derived from CCG unilateral ganglionectomy in male lamb, Santa Inês, 4 months-old, weight averaging 15 Kg, divided into three distinct groups based on post surgical evaluation period. Group I – animals – two weeks; Group II – 3 animals – seven weeks and Group III – twelve weeks. Animals were sedated by acepromazine 0.2% (0.1 mg/kg) associated to butorfanol thartarate 1% (0.3mg/kg) – IM; induced by ketamine hydrochlorate 10% associated to diazepam at 1:1 ratio (0.15ml of the association/kg) – IV, and maintained through inhaled anaesthesia using halothane. The animals were placed on right lateral decubency for the surgical procedure. The skin was incised from the ear base to the mandible ramus. The subcutaneous was divulsed and revealed the platysma which were incised to expose the external jugular vein, adipose tissue and parotid gland. On a deeper plan, after external jugular vein retraction, it was possible to identify the *occipitohyoideus* muscle that recovers the carotid sheath. Its incision revealed the hypoglossal nerve and the internal carotid artery which were retracted to reach the CCG. After the ganglionectomy (CCGx) the tissues were then sutured following pattern technique. The left CCG were used as control ganglia. After two weeks (Group I), seven weeks (Group II) and twelve weeks (Group III) the animals suffered euthanasia using sodium pentobarbital overdose and provided the treated ganglia. In both moments, the ganglia width, length and thickness were measured through a digital pachymeter (Starret®). Ruminant sympathetic nervous system and its functional aspects are briefly described in veterinary anatomy literature, previous description atep back to the 1950s, and were taken on nine lambs, 2-3 months old to describe a surgical approach. Macroscopically, studies developed on camels described the CCG as a well-developed structure laid rostrolaterally to the *longus capitis* muscle, ventrally to the *sternomastoideus* muscle, recovered by the mandibular gland, on average 15-20mm in length, 4-6mm width and 3mm thickness. Recent studies developed on rats, dogs, cats and horses described a spindle shape for the CCG and regarded about its position being dorsally to the internal carotid artery. Through neurotracer injection technique, in rats, it was possible to distinguish the nerve fibers projection to the submandibular gland, eye, pineal. It is referred that the CCG supplies innervation to the pineal through the internal carotic nerves and to the thyroid and parathyroid through the external carotic nerves, proposing that the CCG would be a brain parallel pathway of communication with the endocrine system. Our results demonstrated that the CCG laid intimately to the hypoglossal nerve, ventrally to the Atlas, medially to the superficial portion of masseter muscle

and caudal portion of *digastricus* muscle and the sympathetic fibers were related to its caudal pole. Macromorphometric data revealed an increase in length, width and thickness in the post-surgical period.

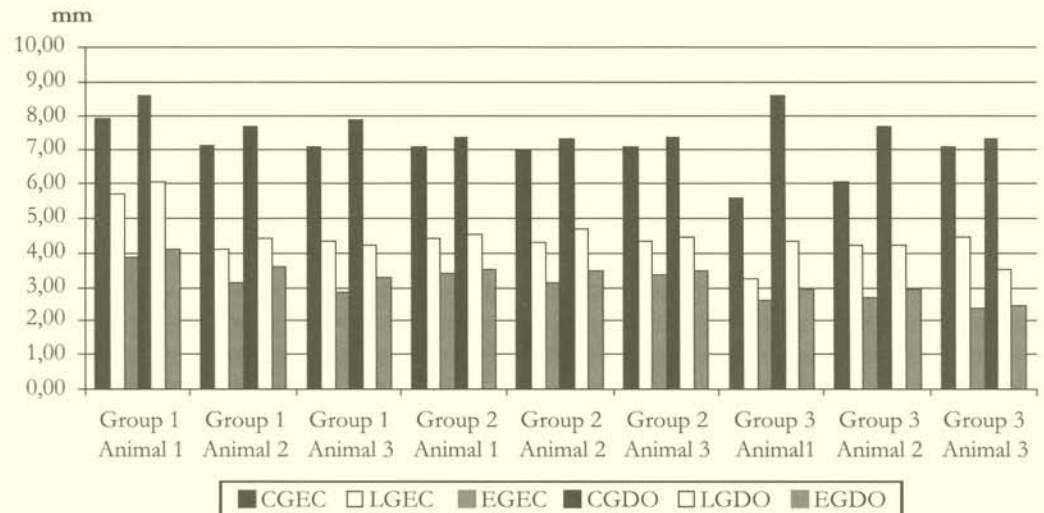


Figure 1. Macromorphometric data of CCG on surgery and euthanasia periods.

Ablação de granuloma bacteriano dos seios paranasais em eqüino

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Granuloma é uma reação inflamatória crônica, formada predominantemente por macrófagos, a natureza do estímulo e a resposta imune do hospedeiro são provavelmente os dois fatores mais importantes no desenvolvimento da inflamação granulomatosa nos tecidos. Relatos de granulomas causados por fungos como *Cryptococcus*, *Coccidioides*, *Rhinosporidium* são comuns na literatura. O plano diagnóstico pode ser feito a partir da história, sinais clínicos, endoscopia, radiografias e exame histológico. Um eqüino, fêmea, sete anos de idade, foi encaminhada ao Hospital Veterinário com corrimento nasal bilateral purulento. Ao exame clínico notou-se cicatriz antiga e aumento de volume da região frontal do antimerro direito, com leve exoftalmia direita. As grandes funções estavam dentro dos parâmetros de normalidade. O proprietário relatou como queixa principal o corrimento nasal purulento, e declarou que o aumento de volume na região frontal, foi decorrente de traumatismo acontecido cinco anos antes. A percussão de toda a região dos seios paranasais mostrou som maciço. Estudo radiológico do crânio mostrou uma área de densidade alterada na região frontal, bem como uma área densa e circular ocupando o seio maxilar caudal compatível com um quadro clínico de sinusite secundária a contaminação provocada pela fratura, ou de hematoma etmoidal. Sob anestesia geral e decúbito esquerdo foi realizada uma trepanação do seio frontal com furadeira elétrica e broca (22mm), como não houve extravasamento de secreção purulenta, somente sangue, a perfuração foi aumentada gradativamente até