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he morphology of the thyroid gland in European bisons - Preliminary research

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Introduction

In contrast to other wild living species, there is not yet a detailed description of the thyroid gland of European bisons. The thyroid gland is responsible for hormone secretion, which is necessary for the European bison's proper metabolism. This is why it is necessary to further examine this organ that is responsible for many life processes of those animals.

Aim

The aim of this study was to create a macroscopic and microscopic description of the structure of the thyroid of the European bison and attempt to compare the structure of the thyroid gland of the European bison and cattle.

Material and methods

Samples were collected of animals coming from either free ranging herd or show pens. The animals were between 2 and 24 years old and were divided into two groups. The first group containing 5 males and the second group 5 females. The samples were placed in 10% formaldehyde. After fixation, specimens were processed by common paraffin technique, cut and stained with haematoxylin and eosin.

Results

The research showed that the thyroid of the European bison consists of two connected lobes and is covered by a thin fibrous sheath. The isthmus of the thyroid lies along the cricoid cartilage and connects the lobes that are located on both sides between the cricoid cartilage and the tracheal rings. Both lobes often have different sizes and forms, although they are mostly round or have the shape of an irregular triangle. The thyroid is composed of spherical follicles surrounded by a single layer of follicular cells. The space between the follicles is filled with connecting tissue containing blood vessels.

Discussion

As well the macroscopic structure as the microscopic structure of the thyroid gland is very complex and has similarities to the thyroid of cattle. This organ controls the metabolism of the whole body and is therefore extremely important for ruminants like the European bison. The relative weight of this organ is bigger in herbivores than in carnivores, because they have a more complex metabolism.

Conclusions

As well the macroscopic structure as the microscopic structure of the thyroid gland is very complex and has similarities to the thyroid of cattle. The thyroid gland is a very important organ controlling the metabolism of ruminants, which is why it seems that further studies are needed.

