

Sexual dimorphism in the hypothalamus of domestic mammals: a review of the recent literature

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SUMMARY

This short review analyzes recent findings on the sexually dimorphic nuclei of the hypothalamus of domestic mammals. Evidences for sexually dimorphic hypothalamic structures have been adding up since the last fifteen-twenty years. However, the vast majority of the studies have been performed in small laboratory rodents. A consistent number of papers described also dimorphic structures in postmortem human brain tissue. To our knowledge only few studies have been performed in domestic mammals, notwithstanding the importance of the system for the understanding of reproductive endocrinology in farm animals. Surprisingly, absolutely no data are available for the cat, dog and horse. The only detailed investigations concern the pig. Studies performed in the bovine consider only the normal morphology and neurochemistry of the system but not sexual dimorphism. Our conclusions, based on preliminary results, indicate that the bovine could be an interesting candidate for studies in the comparative neuroendocrinology of the sexually dimorphic hypothalamic structures, considering also the prevalence of freemartins, masculinized female twins in a heterosexual pregnancy.