**Determination and pharmacokinetic data of harpagoside in equine plasma after intragastric administration of an extract of Harpagophytum procumbens (Devil´s claw) by means of LC/MS/MS**

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**Introduction**

Harpagophytum procumbens (Devil’s claw) is used for the medical treatment of chronic inflammatory and degenerative disorders [1] and for prevention of inflammatory symptoms in horses since many years, but without the substantive equine pharmacokinetic data [2], [3].

**Aim**

The aim of the present study was the evaluation of the pharmacokinetic parameters of harpagoside, the main characteristic marker of devil’s claw, in equine plasma.

**Method**

Six healthy horses received a single dose of a Harpagophytum extract, containing 5 mg/kg harpagoside (group 1) and 10 mg/kg (group 2) via nasogastric tube. An open, single-dose, two-treatment, two-period, randomised cross-over design was used. A 7 days washout period was arranged between the administrations. Plasma samples were cleaned up by solid-phase extraction (SPE) and harpagoside was determined by LC/MS/MS using apigenin-7-glucoside as internal standard.

**Results**

After single oral administration of the devil’s claw extract via nasogastric tube the mean maximum levels of harpagoside were found at C\text{max} = 27.24 ng/ml (group 1) and 59.07 ng/ml (group 2), respectively, after 0.68 h (group 1) and 0.79 h (group 2).

The elimination of harpagoside from the equine plasma was fairly rapid with a mean elimination half- life (t\text{1/2}) of 0.49 h (group 1) and 0.87 h (group 2). Harpagoside could be detected up to 9 hours after oral administration by the established method. A proportional relationship between dose and the first maximal concentration (C\text{max}) was observed. (Figure 2)

**Conclusion**

The knowledge of basic pharmacokinetics of devil’s claw in horses, based on the results of this study, will help to link results from in vitro assays and clinical studies.

**References**


The study was discussed and approved by the institutional ethics committee (GZ BMWF-68.205/109-II/10b/2009).