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Successful control of feline and equine skin neoplasia by *Viscum album* extracts (ISCADOR) considering special issues in human medicine

Introduction

Extracts of European Mistletoe (*viscum album sp.*) such as Iscador® are applied to cancer patients as primary or complementary therapy for more than 80 years. Several investigations has been showing a positive outcome for human patients. In horses semi-malignant Equine Sarcoid (ES) is a relevant problem due to it's tendency to recur after surgery and it's amount of tumor numbers per horse. Feline Fibrosarcoma (FFS) is very common in cat populations and is associated to vaccination, hypothetically to injections in general. Therefore, results of two different clinical research projects under practical conditions in horses and cats are presented.

Animals, Material & Methods		
Tumor disease	*Study I: Equine Sarcoid (ES)*	*Study II Feline Fibrosarcoma (FFS)*
Species	Horses (n=53)	Cats (n=44)
Therapy strategy	Monotherapy & Monotherapy + selective surgery	Recurrence prophylaxis after excision
Formulation	Iscador P Ser. I (0.1-10mg/ml), II (1-20mg/ml) & 20mg	*Viscum quercus dil. Aqu.* 1mg/ml (Weleda)
Protocol	Series I (14 inj.), Series II (14 inj.), 20 mg/ml (15 inj.)	Twice daily 10 drops each
Administration	s.c.	Peroral (to avoid injections)
Length	15 weeks	Permanently until break by owner or death
Primary outcome	cure rate, improvement rate (tumour size/count reduction >50%)	disease free survival time
Study design	prospective placebo controlled blind study	prospective drug monitoring study
Statistics	Chisquare test for outcome comparison (STATA)	Kaplan-Meier Survival stimulation (CRAN R)

Results

Figure 1: Cure and improvement rates on horse level 3 to 12 month after treatment start. Improvement rates with different index a,b are significantly different (p<0.05)

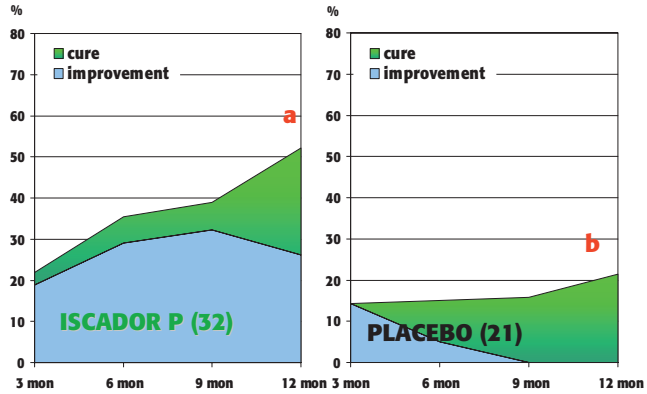
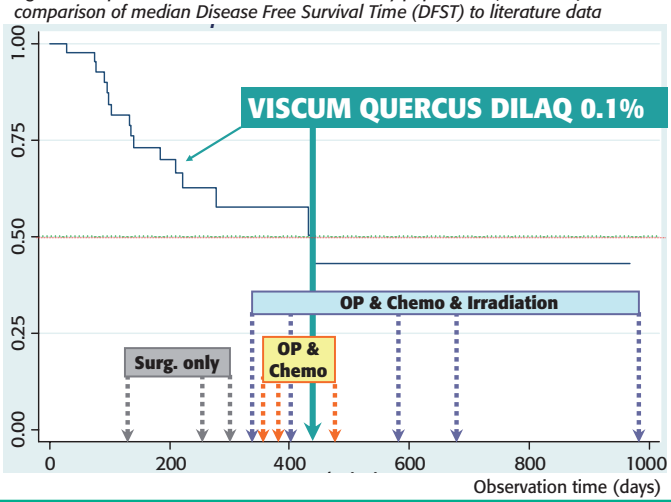
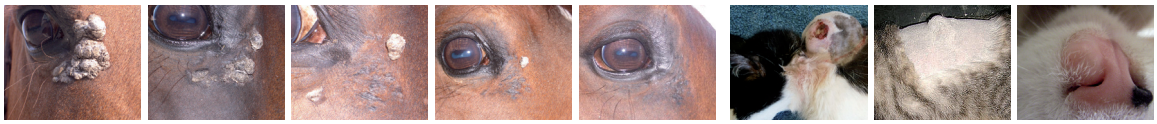


Figure 2: Kaplan-Meier Survival Function of study population (n=44 cats) and comparison of median Disease Free Survival Time (DFST) to literature data





Discussion and Conclusions

Equine sarcoids respond to therapy with subcutanously applied ISCADOR P with significant higher improvement rates compared to placebo. There is no significant difference between groups after 15 weeks of therapy. **Highest therapy effects occur one year after treatment indicating a prolonged effect by ISCADOR beyond therapy course.**

Orally administered viscum extracts after tumor excision show similar results (median DFST 421 days) as additional chemo-therapy in FFS, but nearly **without undesired side effects**. Only aggressive therapy protocols are able to extend disease free survival time.

ISCADOR® is a valuable therapy approach for neoplasia in animals. The presented protocols raise the discussion about oral therapy and frequency of therapy courses in human patients, too.

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