

Acute mastitis with SIRS: the impact of different treatment regimes on acute phase proteins and milk quality

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Introduction

- Mainly *E. coli*
- Galactogenous infection
- Seasonal accumulation
- Intoxication





Material and method

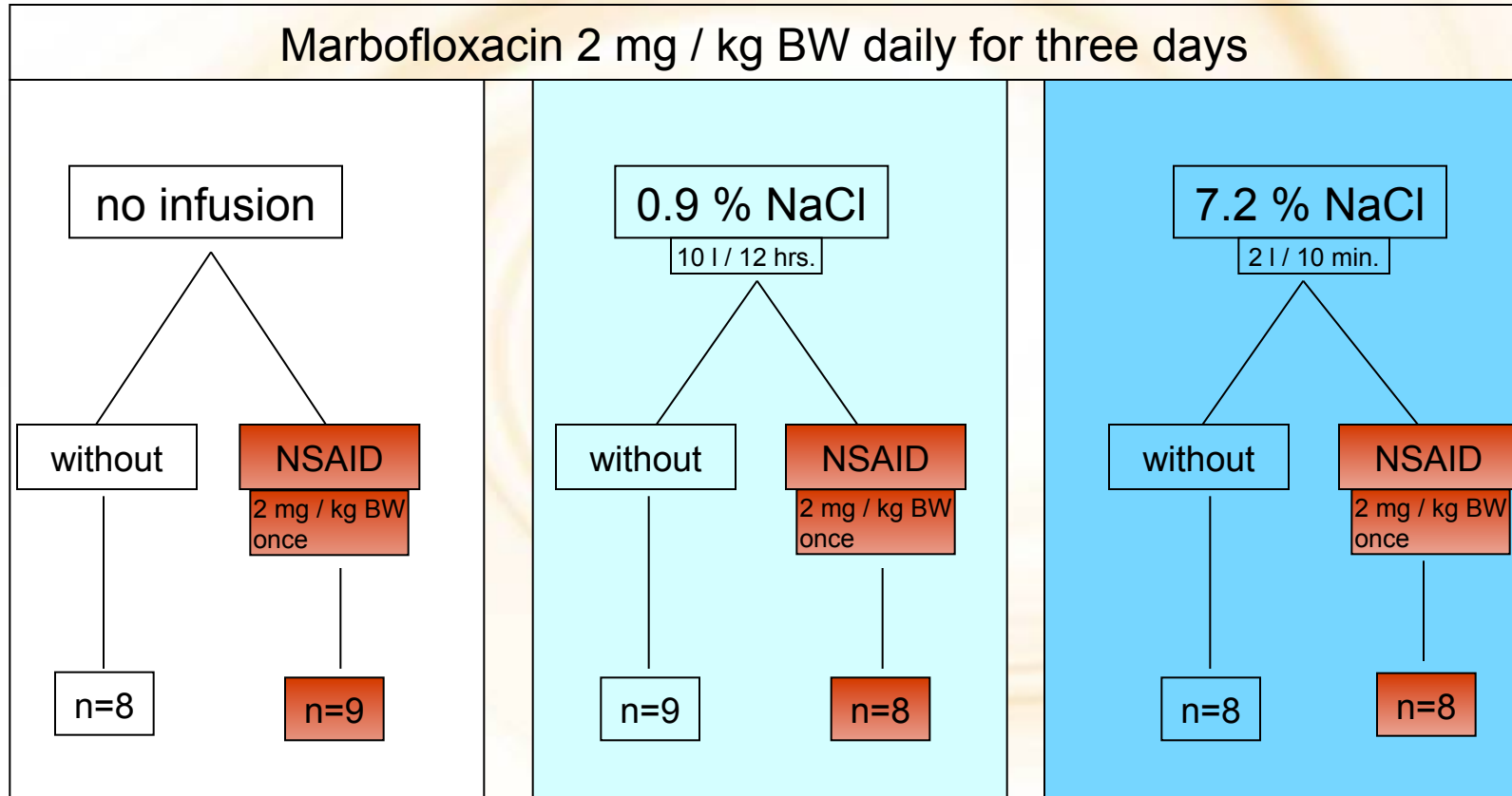
- Inclusion criteria
 - Rectal temp. > 39.3 °C
 - Depression of general condition, appetit
 - Milk appearance: clots and flakes
- 50 cows in trial
- 8 healthy cows





Material and method

Marbofloxacin 2 mg / kg BW daily for three days





Material and method

- Samples:
 - 0, 12, 24, 48, 72 hrs.
 - 3 weeks after the first visit

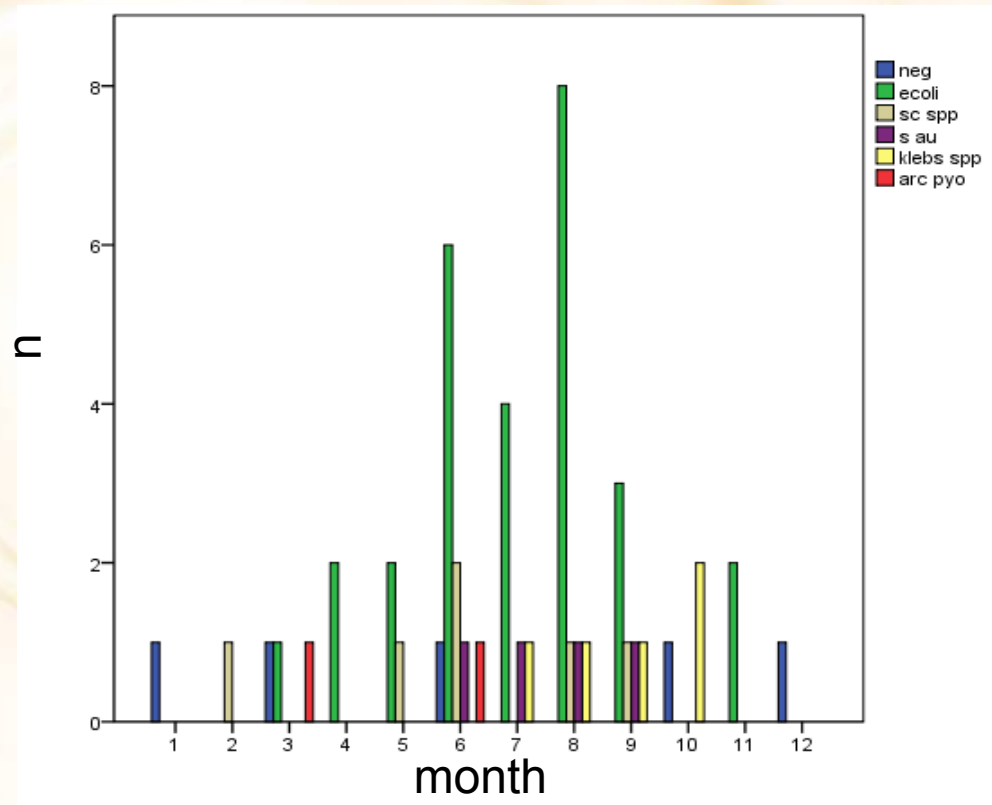
Minerals	Ca, P, Mg, Na, K, Cl
Enzymes/metabolic parameters	GGT, GLDH, TBIL, GOT, CK, TP, ALB, Urea
Acute phase proteins	Haptoglobin, SAA
Inflammation biomarker	TNFa
White blood cell count	WBC
Milk	Quality (CMT, BE)





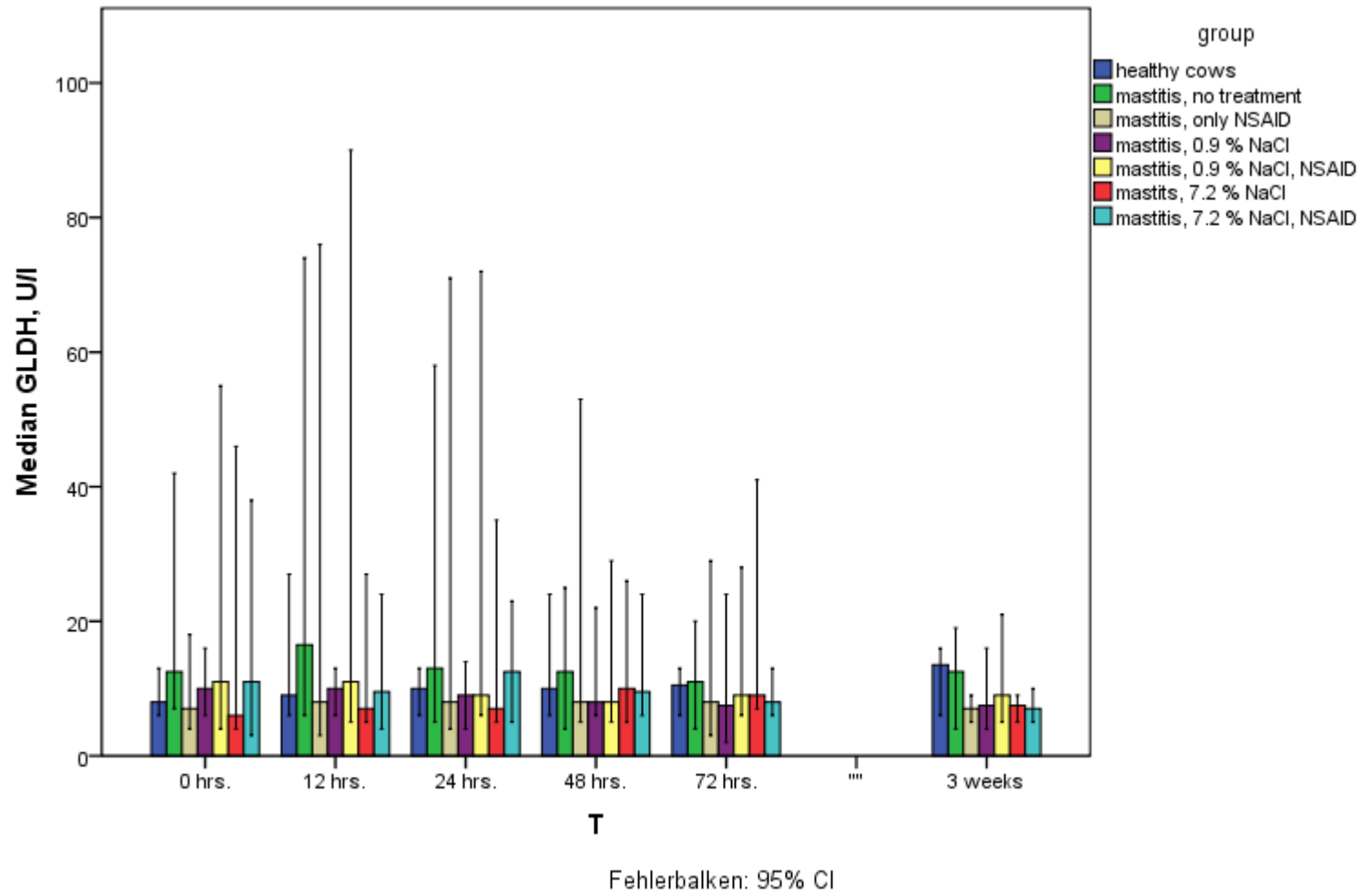
Bacteriological examination

Bacteria	n cows	%
<i>E. coli</i>	28	56
<i>Klebs. sp.</i>	5	10
<i>Sc. sp.</i>	6	12
<i>S. au.</i>	4	8
<i>Arc. pyog.</i>	2	4
Negative	5	10



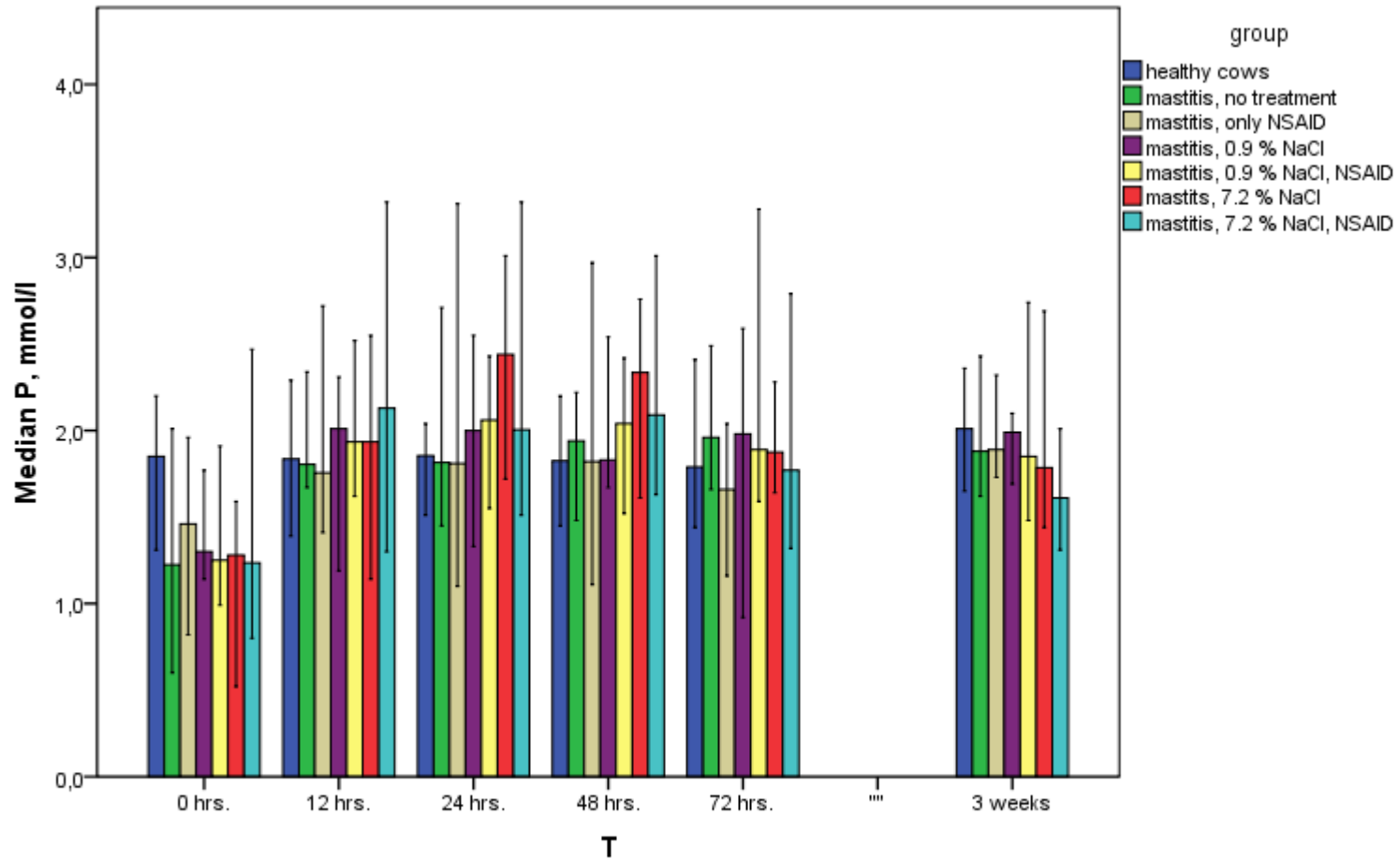


Liver





Minerals

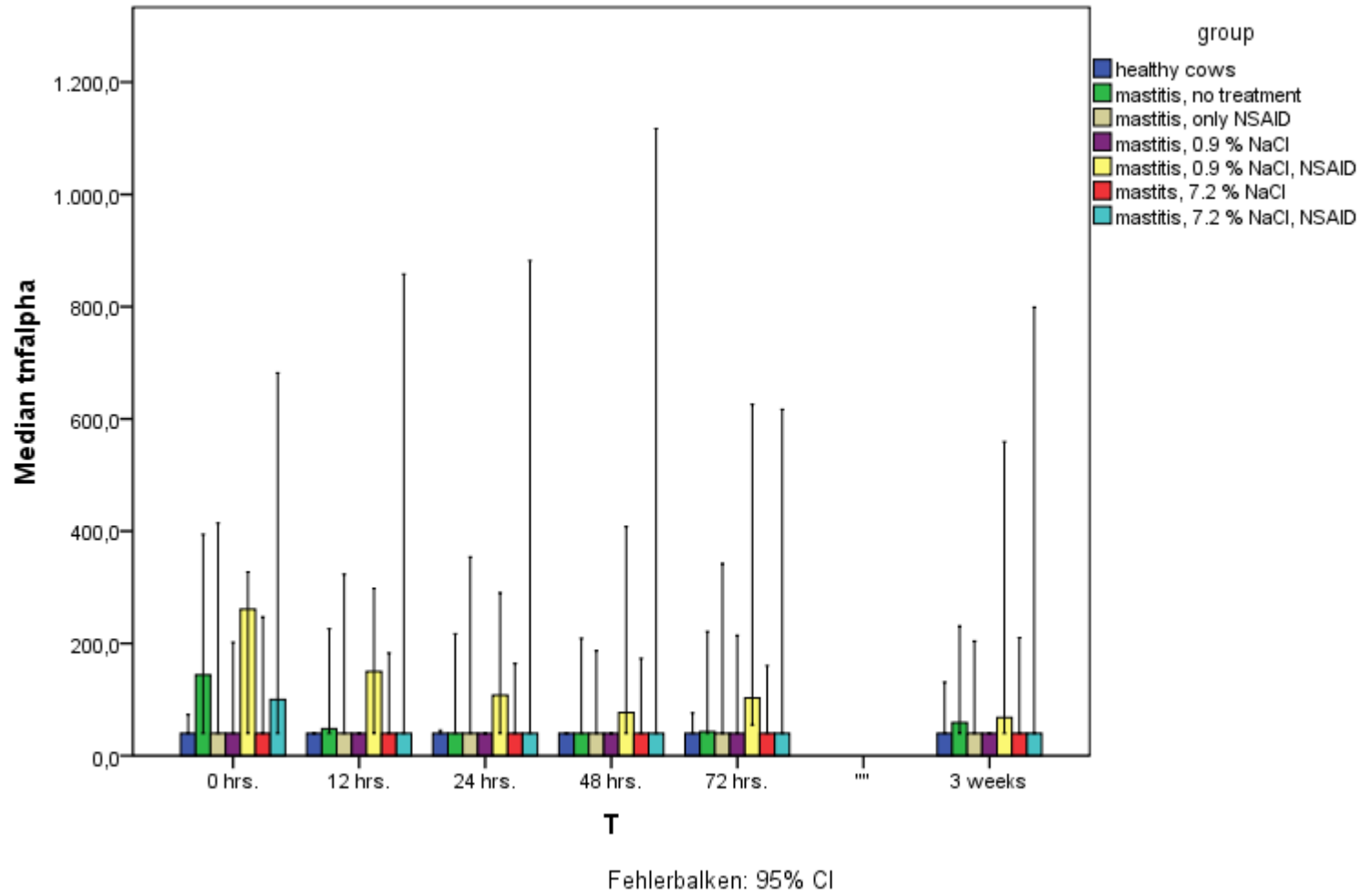


Fehlerbalken: 95% CI



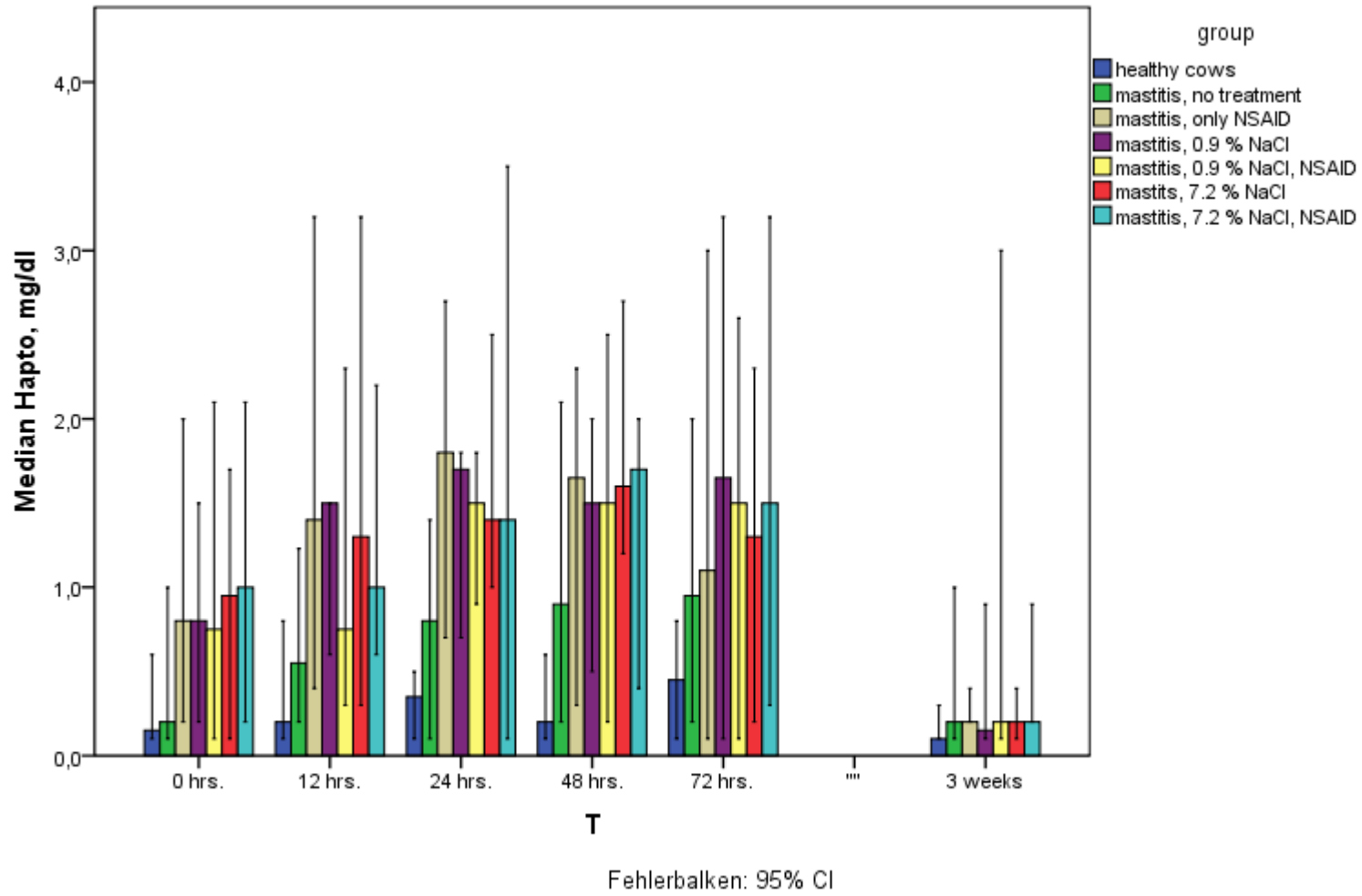


Inflammation biomarker



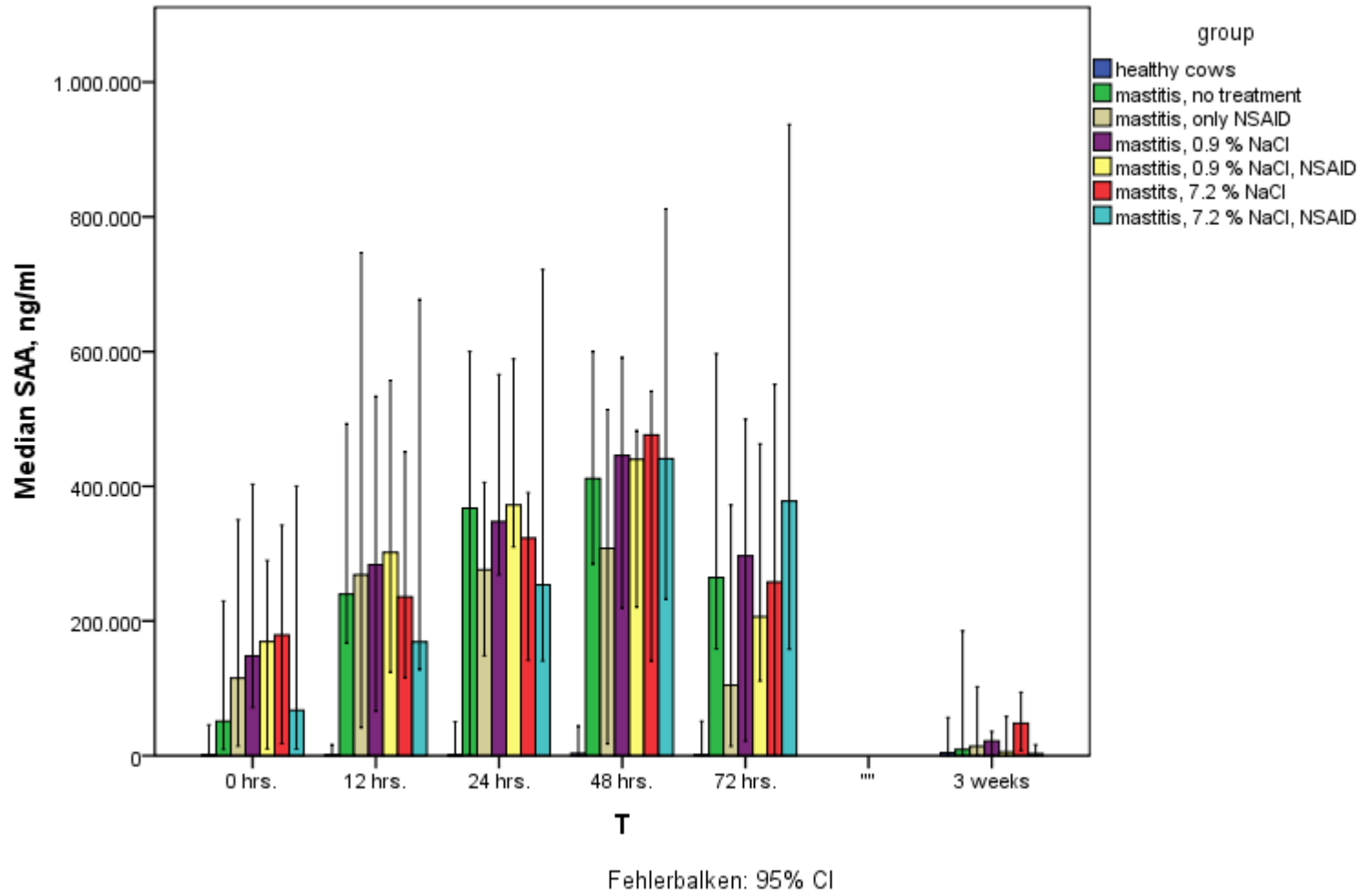


Acut phase proteins



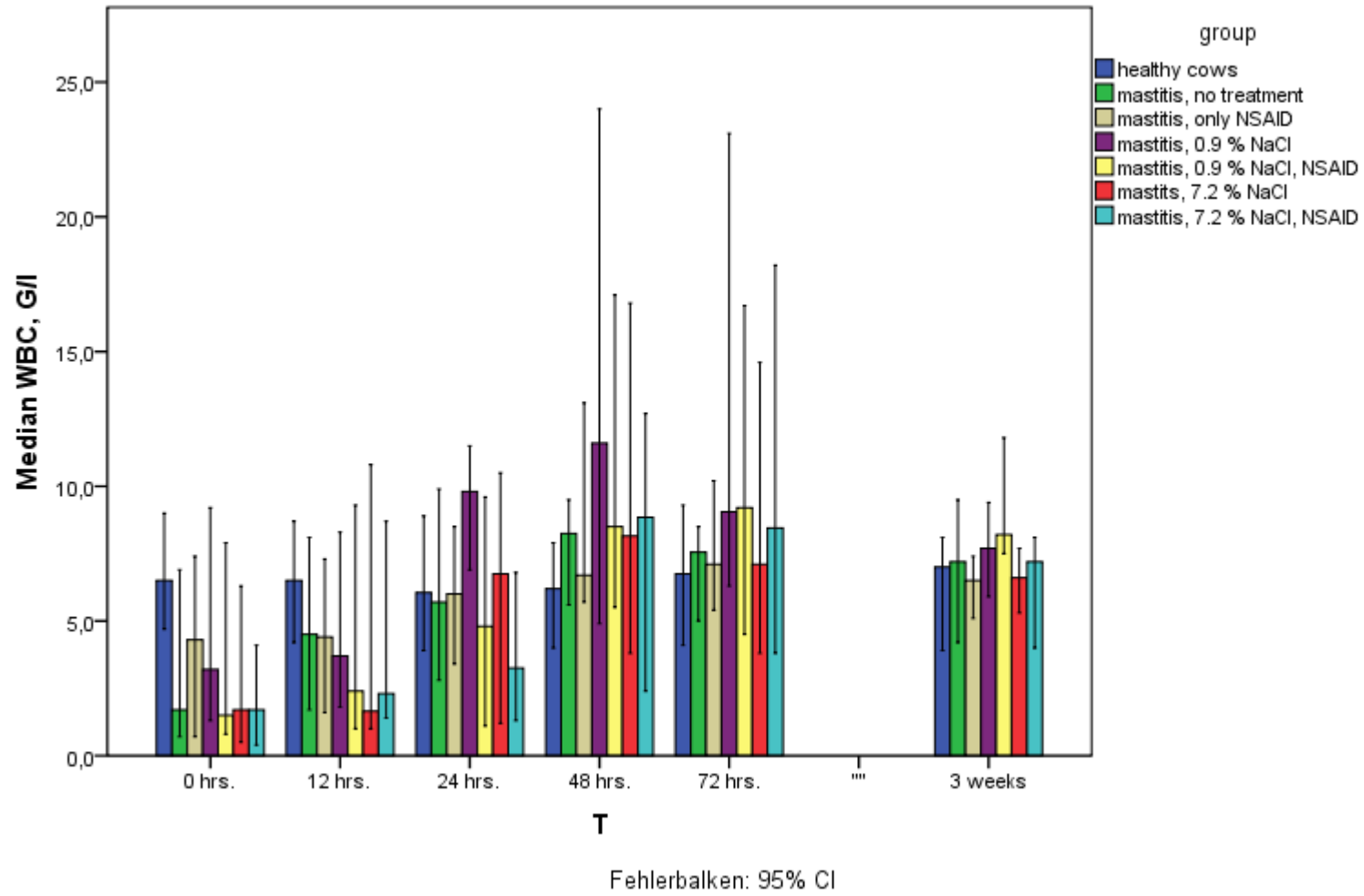


Acut phase proteins



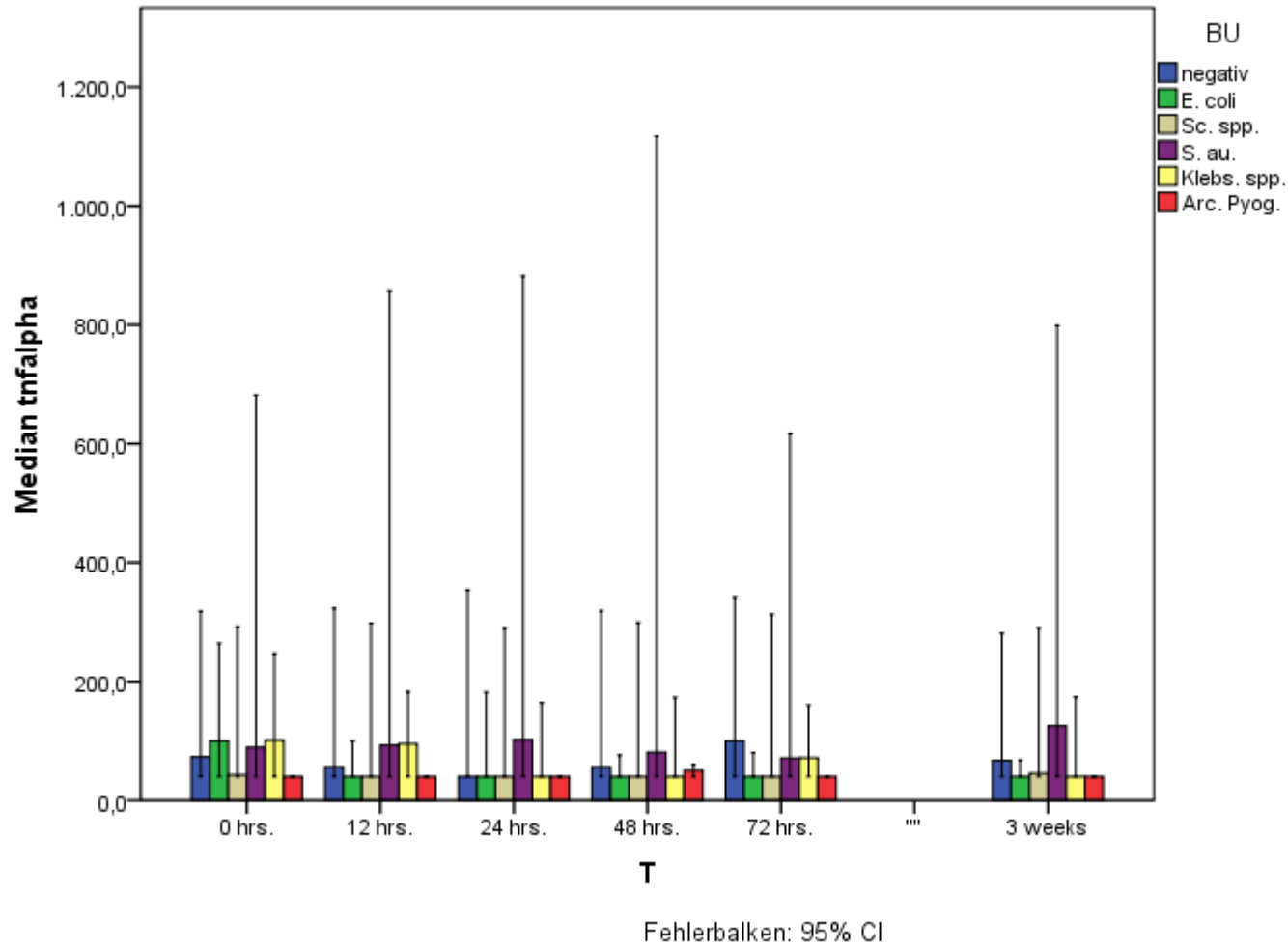


White blood cells



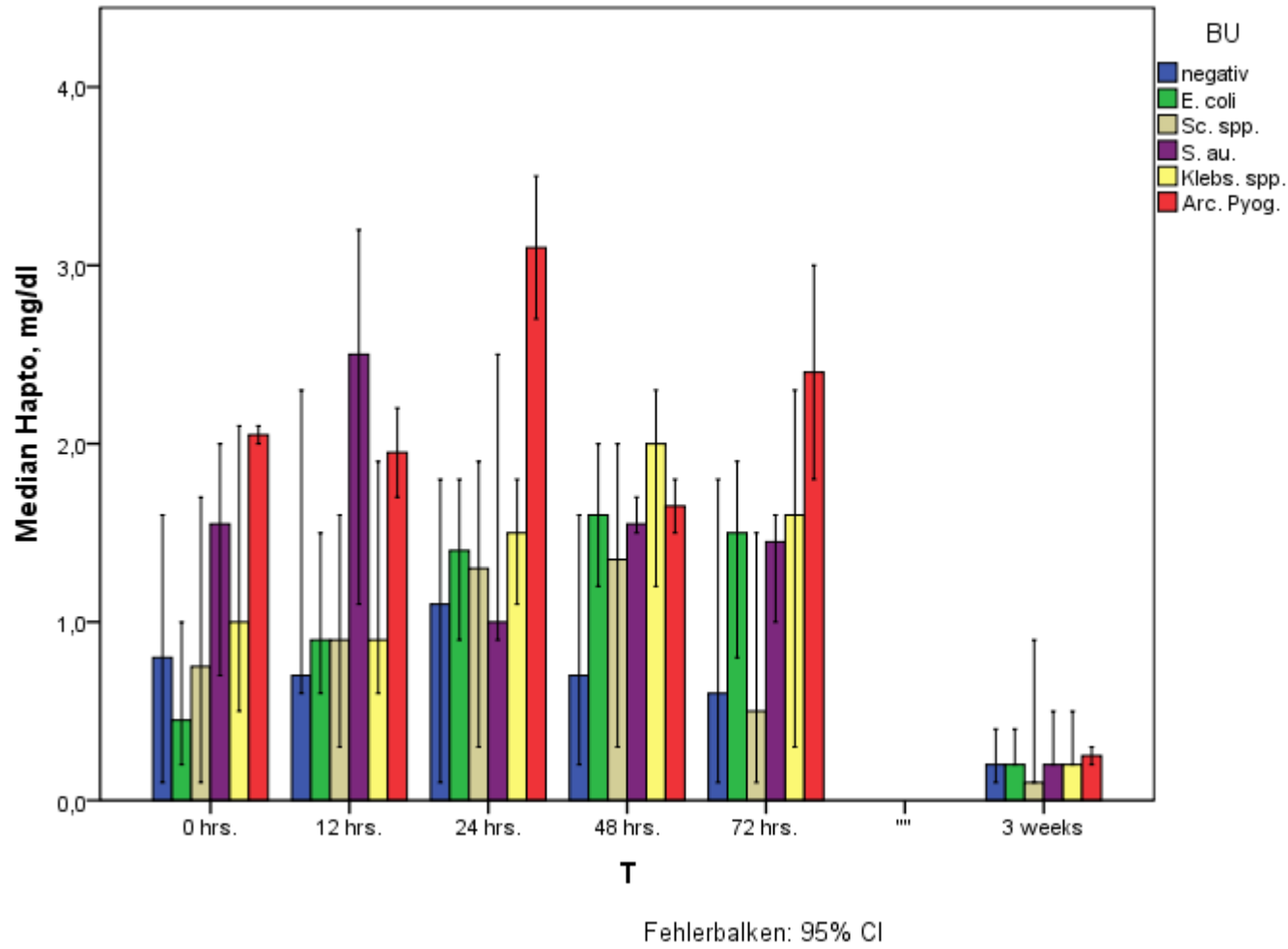


Pathogens



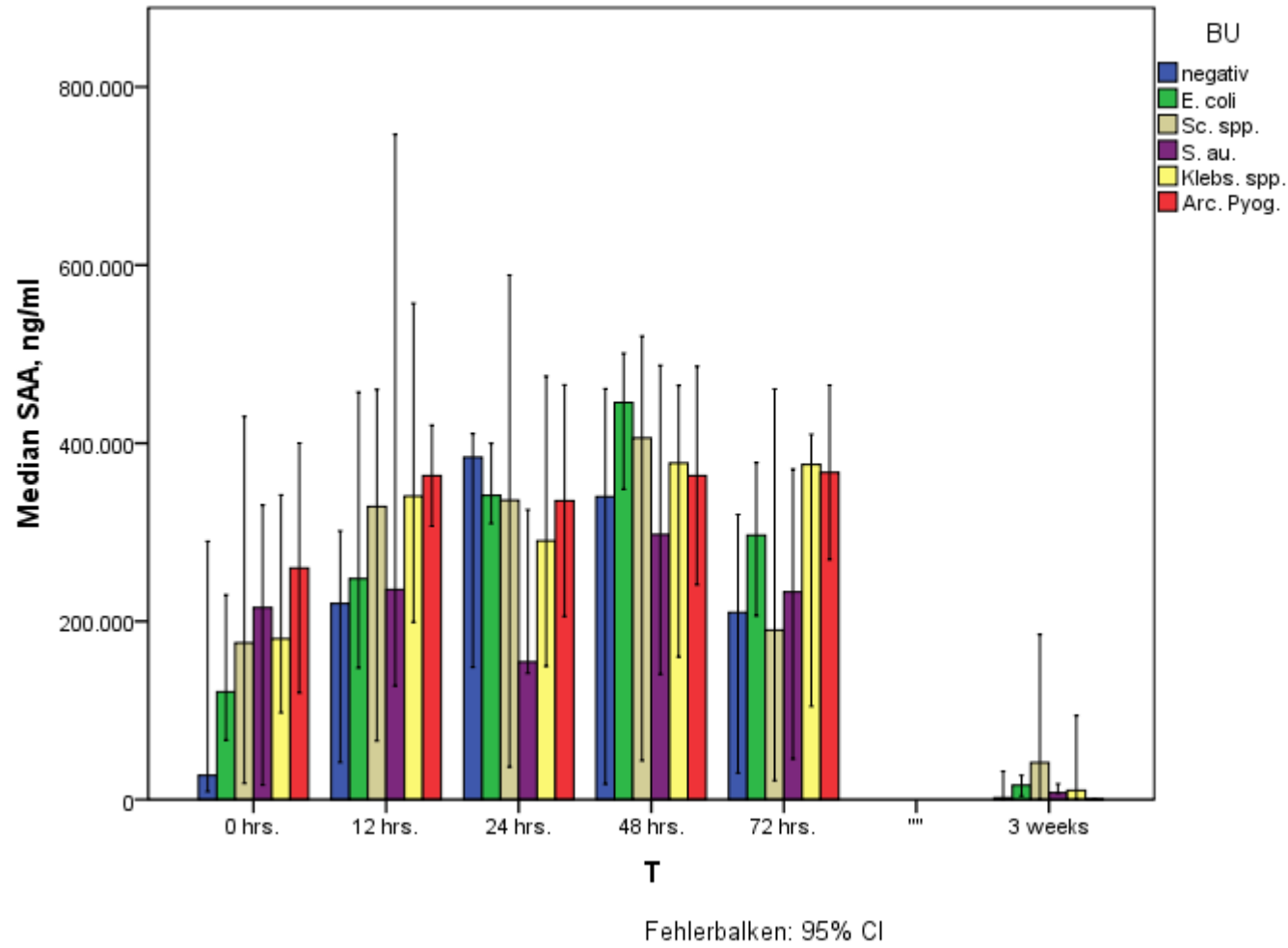


Pathogens



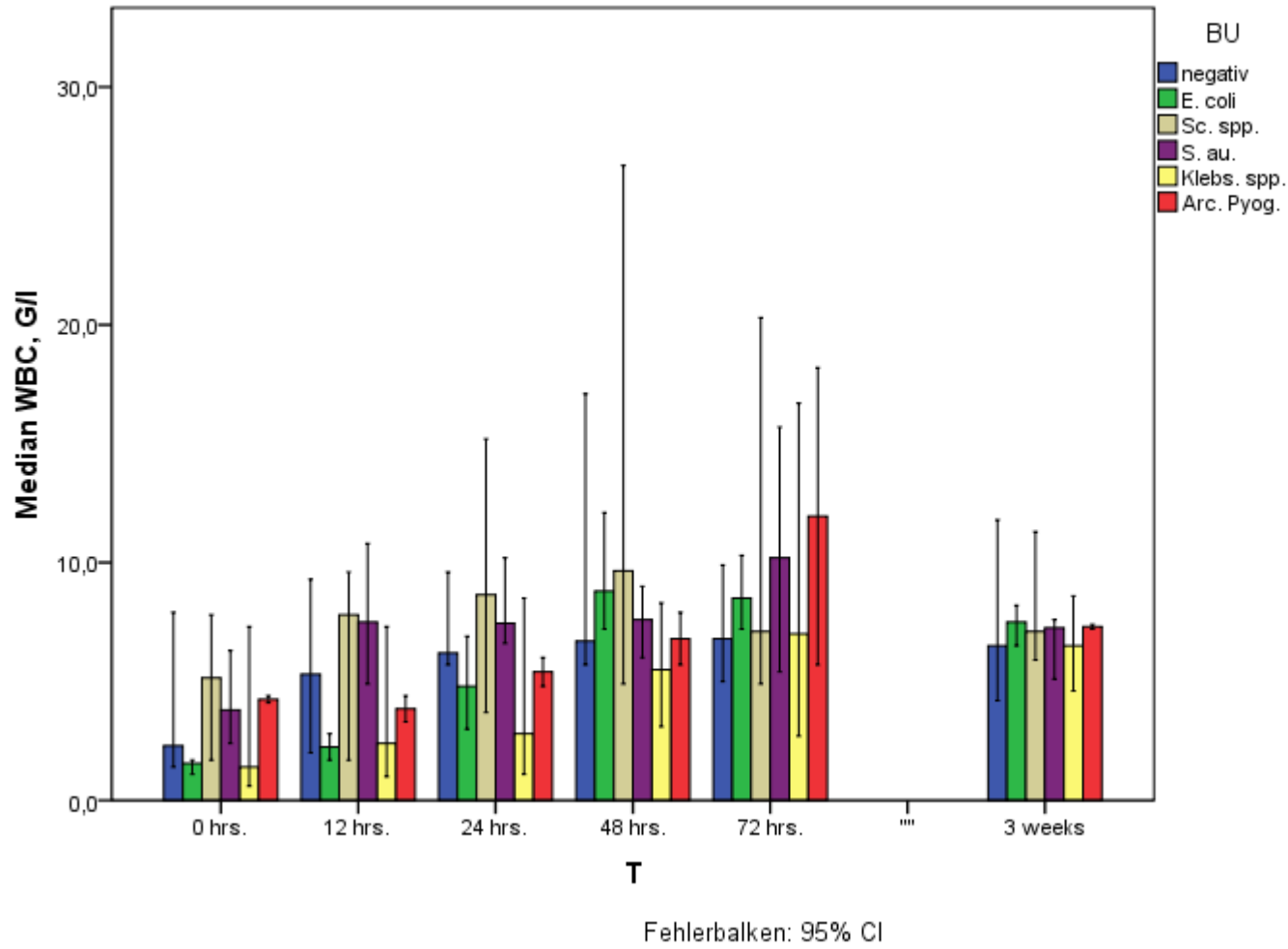


Pathogens





Pathogens





Milk quality

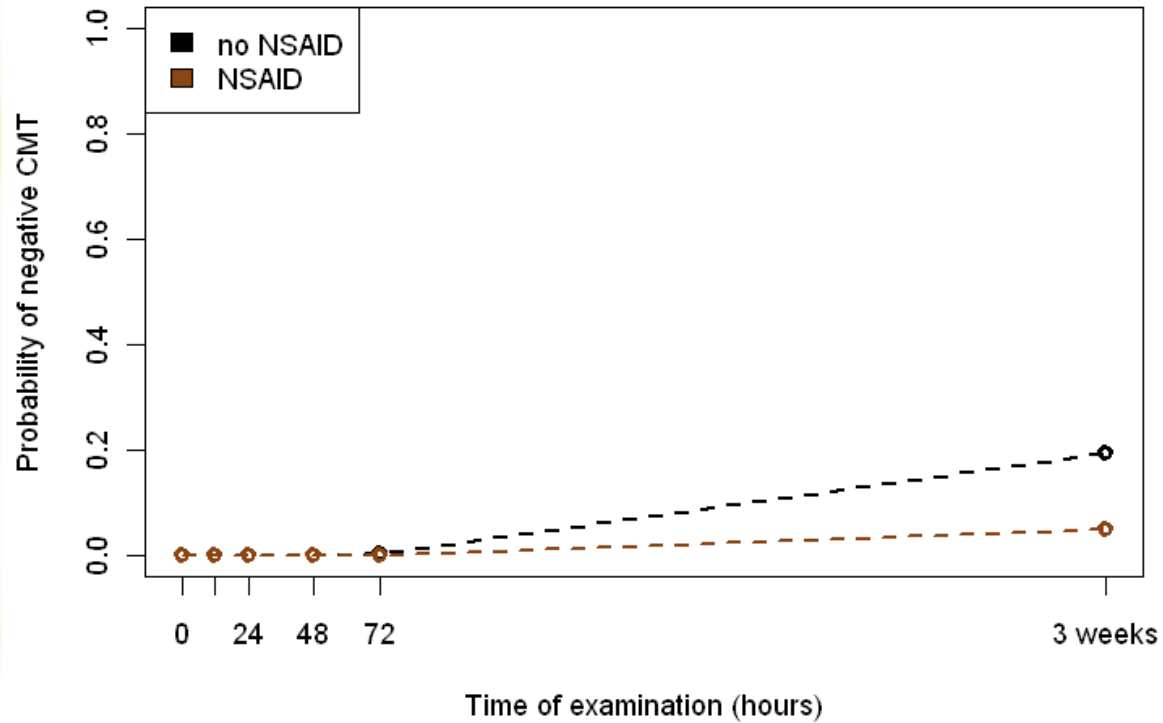
Parameter	time	Inf (I)	NSAID	T*I	T*NSAID	I*NSAID
Appetite	X					X
Rectal temp.	X				X	
Udder adsp.	X			X		
Udder palp.	X			X		
CMT	X		X			
Bact. exam.	X					

p < 0.05



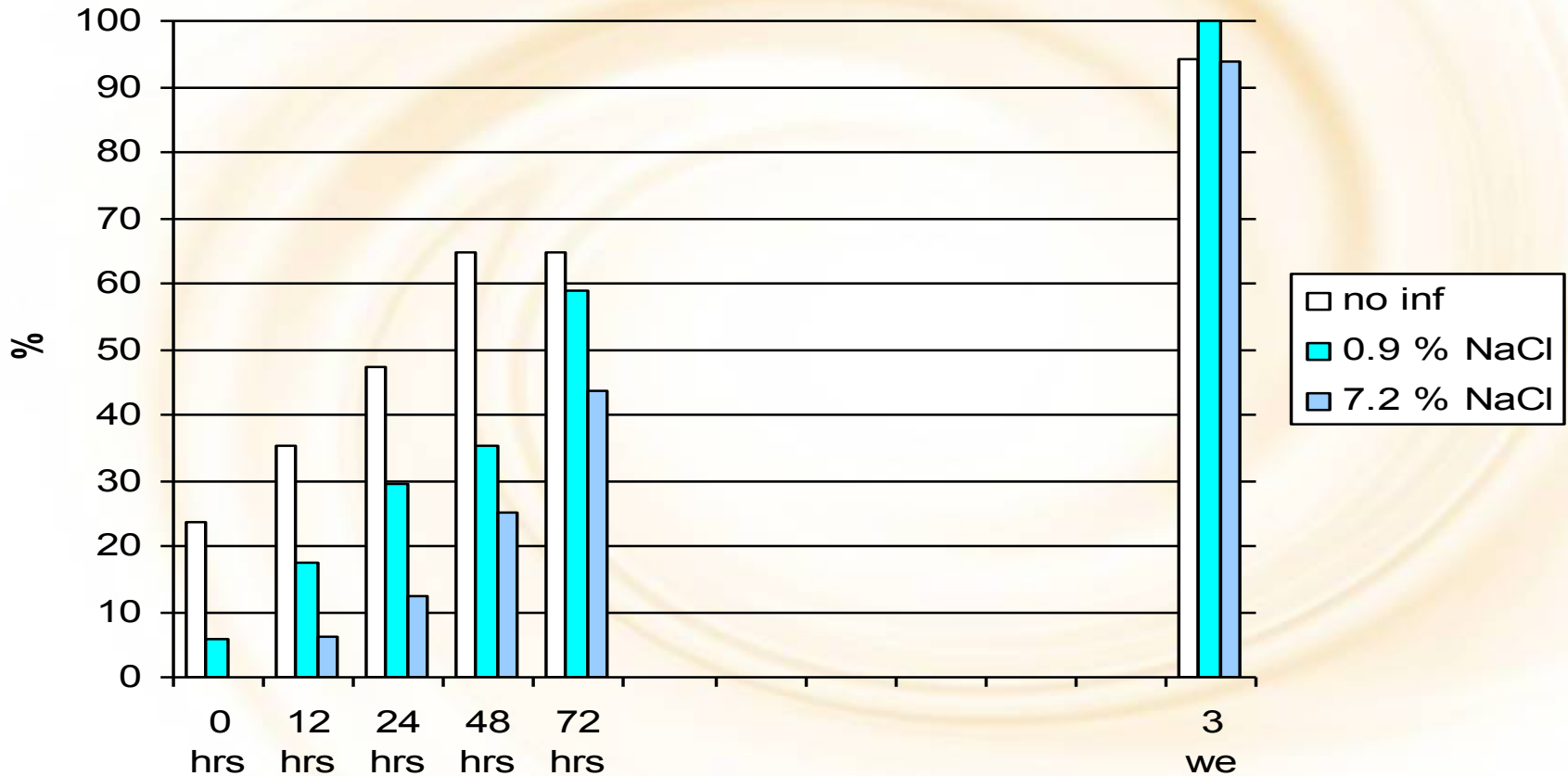


CMT





Bacteriological examination





Conclusions

- Major pathogen: *E. coli*
 - Moderate infections: low TNFa levels
- Blood parameters influenced only by the time
 - P, Hapto, SAA, WBC
- Infusion and NSAID:
 - no influence on blood parameters
 - Field study: „varying sampling intervall at 0 hr ?“
 - Influence on appetite and udder recovery





Conclusions

- Causing pathogens had influence on some blood parameters
- SCC:
 - no improvement within 72 hrs
- Bacteriological Examination:
 - negativ at 3 weeks in all cows (*E. coli* + *Klebs.*)





Support

- Federal ministry of agriculture, forestry, environment and water management, Vienna
- Vetoquinol, Vienna



