



Nicole Verhaar (Autor)

Pharmacological preconditioning and ischaemic postconditioning in experimental jejunal ischaemia in horses

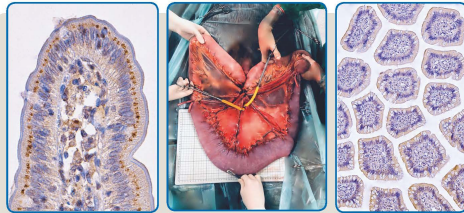
Wissenschaftliche Reihe
der Klinik für Pferde

Herausgegeben von
Karsten Feige, Peter Stadler,
Harald Sieme, Bernhard Ohnesorge



Nicole Verhaar

Pharmacological preconditioning and ischaemic postconditioning in experimental jejunal ischaemia in horses



STIFTUNG TIERÄRZTLICHE HOCHSCHULE HANNOVER

52



Cuvillier Verlag Göttingen
Internationaler wissenschaftlicher Fachverlag

<https://cuvillier.de/de/shop/publications/8453>

Copyright:

Cuvillier Verlag, Inhaberin Annette Jentsch-Cuvillier, Nonnenstieg 8, 37075 Göttingen, Germany

Telefon: +49 (0)551 54724-0, E-Mail: info@cuvillier.de, Website: <https://cuvillier.de>

TABLE OF CONTENTS

List of Abbreviations.....	I
1. Summary	III
2. Zusammenfassung	V
3. Introduction	1
3.1. Small intestinal strangulation in horses	1
3.1.1. Incidence.....	1
3.1.2. Pathogenesis.....	1
3.1.3. Assessment of intestinal viability.....	2
3.1.4. Small intestinal resection – prognosis and limitations.....	2
3.1.5. Adjunctive treatment strategies.....	3
3.2. Preconditioning.....	3
3.2.1. Ischaemic preconditioning.....	3
3.2.2. Pharmacological preconditioning.....	5
3.3. Postconditioning	6
3.3.1. Ischaemic postconditioning.....	6
3.3.2. Pharmacological postconditioning.....	8
3.4. Remote Conditioning.....	8
3.5. Conditioning – the mechanism of action.....	9
4. Aims and Objectives	13
5. Manuscript I - Preconditioning with lidocaine and xylazine in experimental equine jejunal ischaemia.....	15
5.1. Supplemental data.....	34
6. Manuscript II - The effect of ischaemic postconditioning on mucosal integrity and function in equine jejunal ischaemia.....	37
6.1. Supplemental data	58
7. Manuscript III - Ischaemic postconditioning reduces apoptosis in experimental jejunal ischaemia in horses.....	59
8. Manuscript IV - Hypoxia inducible factor 1-alpha and 2-alpha distribution during experimental ischaemia of the equine small intestine.....	85
9. Discussion	101
9.1. Main findings.....	101

9.2. Interpretation of the results.....	102
9.2.1. The ischaemia model.....	102
9.2.2. Feasibility of pre- and postconditioning in an experimental setting.....	103
9.2.3. Mucosal histomorphology.....	105
9.2.4. Cell death.....	105
9.2.5. Mucosal barrier function.....	107
9.2.6. Inflammation.....	107
9.2.7. Mechanism of conditioning action in the current model.....	109
9.2.8. The proximal intestinal segment.....	110
9.2.9. Limitations.....	110
9.2.10. Practical applicability in a clinical setting.....	111
9.3. Conclusions and future perspectives.....	112
10. References.....	115
11. Acknowledgements.....	127