

Utero – Ovarian Pathological Complex of the Sumatran Rhinoceros (*Dicerorhinus sumatrensis*)

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Sumatran rhinoceros complicated reproductive biology has contributed to the failure of this species to flourish in captive breeding facilities. Physiological failures have included absence of intromission, intromission lacking conception and reabsorption. Twenty-two females were in captivity since 1984. Of the seventeen examined at least 50% exhibited reproductive tract pathology. Uterine tumors and cysts were also noted with ultrasonography. Leiomyoma and cystic endometrial hyperplasia was reported postmortem. One female exhibited 8-year-long galactorrhea and another an unusual occurrence of multiple corpora lutea on the ovaries and an enlarged uterus. Uterine pathology appears to begin after 10 years of age, assuming animals were mature when captured. The pathology becomes prevalent in animals over 15 years old. Of the remaining ten females in captivity, eight are copulating of these three have no pathology, and the other five are copulating with mild or significant pathology. Though these animals are reproductively active this pathology may interfere with conception. The etiology of these pathologies needs further investigation.

Influence of Alpha-2-Agonists on Manual Semen Collection in a Standing White Rhinoceros (*Ceratotherium simum simum*)

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Abstract

Reproductive technologies, such as artificial insemination, require routine methods of semen collection. The common technique to obtain semen samples from rhinoceros is electroejaculation. The objective of this study was to develop a less invasive procedure without the necessity of anaesthesia in order to perform repeated deseminations. Based on successful pharmacologically induced *ex copula* ejaculations in stallions using alpha-2-agonists (MCDONNELL and ODIAN, 1994; TURNER et al., 1995) a study with two white rhino bulls (age 20 and 30 years) was carried out at Salzburg Zoo Hellbrunn. We used Detomidine-Hydrochloride (*Domosedan*, Pfizer Corporation Austria Ges.m.b.H., A-1071 Wien) and a combination of Detomidine-Hydrochloride and Butorphanol (*Butomidor*, Richter Pharma AG, A-4600 Wels) applied IM. The preliminary results presented here are based on our experiences with the older male white rhino.

The study was undertaken in the new rhino housing facility at Salzburg Zoo Hellbrunn with a thirty years old male white rhinoceros. The rhino was conditioned to enter a restraint chute and to tolerate manual stimulation of penis and preputium. The indoor restraint chute enables easy access to the genital region of the white rhino while providing the highest standard of safety for the operating person. Various dosage-related protocols using Detomidine-Hydrochloride and a combination of Detomidine-Hydrochloride and Butorphanol applied I.M., as well as non-medicated trials, were performed at an average of three times per week over a period of three months. Prior to I.M. injection, dermal anaesthesia was achieved by applying an eutectic mixture of local anaesthetics (*Emla*, 5%- Creme, Astra Ges.m.b.H., A-4020 Linz). In order to maintain a strong erection and to induce the ejaculatory reflex, manual stimulation of the preputium and penis was performed similar to descriptions by SCHAFFER et al. (1990) and WALZER et al. (2000). Immediately after each session, a questionnaire scaling several objective and subjective parameters was answered. The scaling of the subjective parameters occurred separately by the keeper and by the first author.

Analysis of the questionnaire allowed a comparison of non medicated manual stimulation and medicated penile stimulation using Detomidine-Hydrochloride and Detomidine-Hydrochloride combined with Butorphanol.

Referring to the scaled subjective parameters, neither aggression, fear, avoidance behaviour nor heightened nervousness were noted at any time during the study. A superior

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