

elephants. FPM profiles suggested that five females (45-60 years of age) were no longer cycling normally and that pregnant elephants (n = 22) had significantly higher FPM concentrations than non-pregnant individuals. Social status and month of gestation were the strongest predictors of FPM concentrations in pregnant elephants. The number of years since a female gave birth to her last calf was significantly related to age of the elephant; older females had the longest post-partum duration. Social status was the strongest predictor of FPM concentrations in non-pregnant elephants; grand matriarchs had the lowest values. Combined, our results provide hormonal evidence to support the premise that African elephants experience menopause. The important knowledge that matriarchs impart to their kin may have facilitated the evolution of a post-reproductive lifespan in this long-lived, social species.

EMERGENCY NEONATAL CARE OF AN INDIAN RHINOCEROS (*RHINOCEROS UNICORNIS*) CALF

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An Indian Rhinoceros (*Rhinoceros unicornis*) gave birth after a 491 day gestation. The female calf presented in a breech position. The labour, though ultimately successful, was strenuous. Though the dam had previously successfully reared a calf, in this instance no maternal instincts were seen. The calf was weak and remained entrapped within the placental membranes. After four hours it was decided to separate the mother and calf in order to intervene. On clinical examination the calf was almost comatose. On examination her rectal temperature was 32.8° C, her mucous membranes were pale and she was severely dehydrated. However, she still had a weak suckling reflex. Her heart rate was 64 beats per minute (bpm) but all peripheral veins were collapsed. Over a two day period of intensive, round-the-clock nursing care, the calf was stabilized using a combination of parenteral and oral fluids including, stored Indian rhinoceros plasma, colostrum and milk from the dam, and milk substitutes. In between the interventions, the calf and mother were left together to allow bonding.

The presentation will describe in detail all treatments administered to the calf plus the treatment of *retentio secundinarum* in the dam, standing sedation of the dam to allow milking and milk analysis of the dam's milk, all of which contributed to a successful outcome in this challenging case.

Emergency Neonatal Care of an Indian Rhinoceros Calf (*Rhinoceros unicornis*)

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LIVING CONSERVATION

Background Information



- Female calf born to 2nd time mum “Beluki” after a 491 day gestation
- Strenuous labour with breech presentation
- Hardly any maternal behaviours from the dam
- Calf remained entrapped and recumbent within the foetal membranes



Clinical Examination



- **Almost comatose**
- **Hypothermic - rectal temperature 32.8°C**
- **Heart rate 64 beats per minute (bpm) with pale mucous membranes**
- **Weight 67.5 kilograms**
- **Severe dehydration**
- **Peripheral veins were collapsed**
- **Weak suck-reflex**



Initial Treatment



- Calf warmed up
- 1 litre of glucose saline SC
- Long-acting amoxicillin IM
- Stomach-tubed with approx 200 mls of Indian rhinoceros plasma and 200 ml lactade large animal
- Umbilicus cleaned and disinfected
- Regular temperature-taking as calf remained hypothermic



Follow-on Treatment



- **S/C fluids (glucose saline) 1 litre repeated twice more**
- **Regular temperature and heart rates taken**
- **Milked colostrum from the dam**
- **Massage therapy for circulation**
- **Temperature started to increase and became more responsive and alert**
- **Put back with dam to help the bonding process**
- **Bottle-fed numerous times throughout the night**
- **Frozen whole foal colostrum**



Subsequent Management



- Hand-reared for 2 days
- Combination of fresh cow's colostrum, non-fat cow's milk, 1% low-fat cow's milk, lactose powder and water (27:9:1:1)
- Regular heart-rates and temperatures taken and recorded
- Encouraged to feed from dam



Maternal Issues



- Retained placenta
- Darted with 30 iu Oxytocin–S
- No placenta expelled
- Repeated Oxytocin-S 15iu via dart 4hrs later
- Decided to sedate dam next day as placenta still retained



Standing Sedation



- Sedated with 25mg Detomidine and 25mg Butorphanol IM - administered by dart
- Topped up with 5mg each IM
- Approx 2 litres milk collected
- Milk offered to calf in a bottle while positioning the calf under dam (no signs of drug reaction from dam's sedation)
- Bacteriology swabs taken from dam's vagina and collected milk
- Blood from the dam, analysed (Epoc® Woodley)



Final Outcome



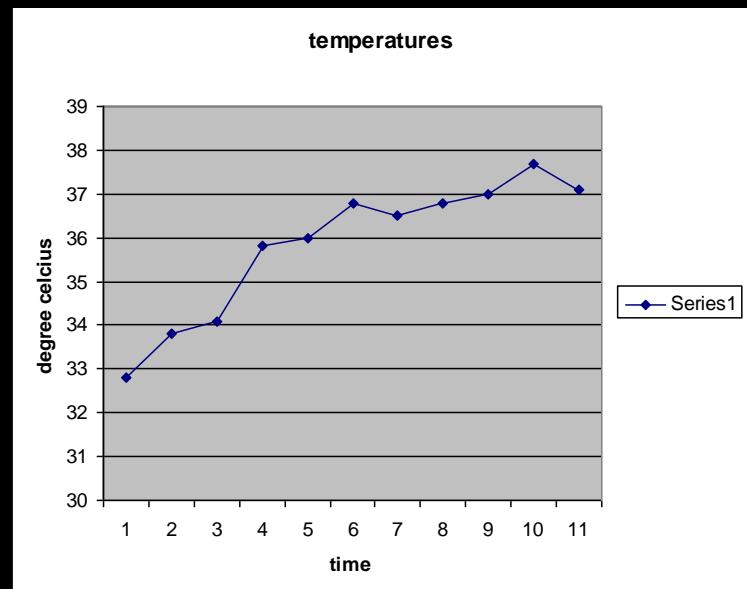
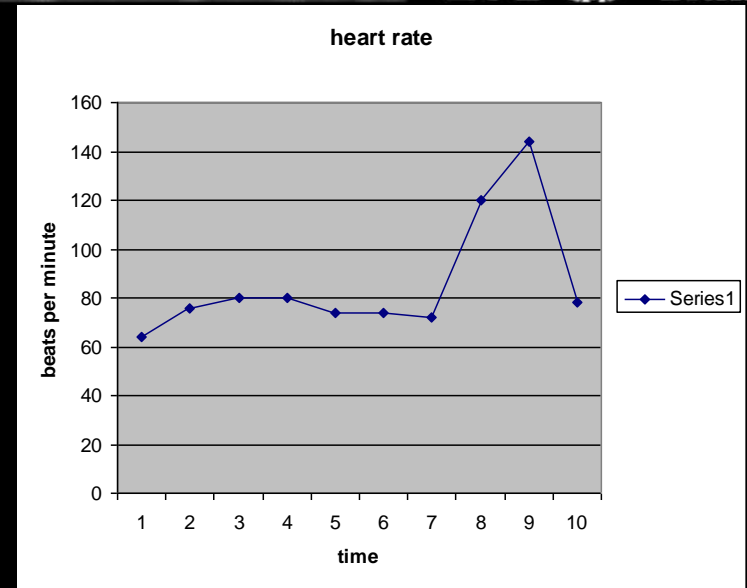
- Calf fed from dam later that evening and then continued to be successfully reared by the dam
- Calf weighed 72.5kg, maintained constant body temperature
- Blood sample (profile + foal IgG test)
- Micro chipped



Discussion



- Vaginal swab results showed no bacterial growth
- Temperatures and HR
- Blood sample from calf showed failure of passive transfer of antibodies
- Blood analysis from dam showed slightly low iCa



Milk Analysis Comparison



Nutrients	WZ Indian rhino N=1	Indian rhino N=1			White rhino	Cow mature milk	Substitute milk (ref)
		Mature milk			Mature milk		
	Day 3 colostrum	Day 30	Day 37	Day 44	Month 14		
Fat (%)	0.1	1.5	1.4	1.3	0.74	4.2	0.31
Proteins (%)	8.62	1.44	1.37	1.37	0.16	3.4	3.21
Calcium (%)	NA	8	8.2	9	6	12	12
Lactose (%)	4.1	7.21	7.8	7.8	7.5	4.8	7.37

Any questions?



Thank you!