

Physiological And Behavioral Changes of a Black Faced Baboon at Around Critical Wound Surgery

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1. Abstract on Physiological and Behavioral Changes of a Black Faced Baboon at Around Critical Wound Surgery

This study investigates the physiological and behavioral changes in a critically wounded black-faced baboon (weighing 36 kg) that underwent surgery for perforated injuries to the umbilicus, lips, and buttocks. The baboon was rescued by the Wildlife Management and Nature Conservation Department, Rajshahi Division, and referred to the University of Rajshahi Veterinary Clinic, Research, and Training Center on July 18, 2021. The surgery was conducted at the Veterinary Clinic of Rajshahi University, Bangladesh, with the objective of monitoring the baboon's physiological and behavioral responses before, during, immediately after anesthesia, and 1.8 hours post-surgery. The findings provide valuable insights into the welfare of the species during critical surgical interventions, contributing to the broader understanding of veterinary care and wildlife rehabilitation practices.

2. Introduction

The black-faced baboon (*Papio anubis*) is a species that exhibits complex social behaviors and physiological responses to stress, making it an important subject for veterinary research. Critical wound injuries in wild animals pose significant challenges, requiring timely surgical intervention and careful monitoring of physiological and behavioral responses to ensure survival and recovery. Anubis baboons are found in savannah, grassland steppe, and rainforest habitats [1-2]. The skin of the face and around the ischial callosities is dark gray to black in both sexes. The bare area

of the rump is much smaller in this species than in *Papio hamadryas* or *Papio papio*. Unlike some species of baboons, the nostrils of *P. anubis* point forward. The head is flat on top, helping to distinguish this species from *Papio cynocephalus* which has a prominent crest on the top of the head. The first quarter of the tail is carried erect, being held straight upward, with the remainder of the tail falling down limp, giving the tail a broken appearance. The natal pelage is black, but this fur is replaced by the typical olive-gray by about 6 months of age [3-6]. This study focuses on the physiological and behavioral changes observed in a black-faced baboon during and after critical wound surgery, contributing to the understanding of the species' welfare in veterinary care.

3. Methodology

The study was conducted at the Veterinary Clinic of Rajshahi University, where the black-faced baboon, weighing 36 kg, was brought in with perforated injuries to the umbilicus, lips, and buttocks. The baboon's physiological parameters, including body temperature, respiration rate, pulse rate, anemia status, and dehydration level, were monitored throughout the surgical process. Body temperature was measured using a laser thermometer, respiration rate was manually counted as breaths per minute, pulse rate was assessed through finger pressure auscultation, anemia was evaluated by observing the mucus membranes, and dehydration was determined by pressure estimation on the eyelids. Anesthesia was administered intramuscularly using a combination of ketamine HCl, diazepam, and atropine sulfate at dosages of

1.5, 40, and 0.05 mg/kg body weight, respectively. The surgical procedure involved making an incision along the injury line at the

umbilicus, followed by suturing the peritoneum, muscle, and skin layers separately. Throughout the surgery, minor hallucinogenic and brief psychotomimetic behaviors were observed.



Figure 1. The Physiological and Behavioral Changes Observed in the Black-Faced Baboon During Surgery.



Figure 2. Post-Surgery, the Baboon's Behavioral and Physiological Changes were Observed Carefully.

4. Results

Post-surgery, the baboon's behavioral and physiological changes were carefully recorded. The body temperature decreased from 102.2°F to 100°F, indicating a mild drop-in metabolic activity. The respiration rate slightly reduced from 28 to 27 breaths per minute, while the pulse rate increased from 124 to 130 beats per minute, reflecting the body's stress response to surgery. The mucus membranes appeared slightly pale, suggesting mild anemia, and the dehydration status was mild throughout the observation period. Behavioral changes were also noted, with the first sound response occurring at approximately 14 ± 3 minutes post-surgery. Signs of alertness, such as blinking of the eyes and response to paw pinching, were observed at 18 ± 5 minutes. The baboon fully recovered within 10 days without significant complications.

5. Discussion

The physiological and behavioral changes observed in the black-faced baboon during and after surgery provide important insights

into the species' response to critical wound surgery. The decrease in body temperature and respiration rate, coupled with the increase in pulse rate, reflects the stress and metabolic demands placed on the animal during surgery. The mild anemia and dehydration observed were consistent with the physiological responses to injury and surgery. Behaviorally, the baboon exhibited a relatively quick return to alertness and responsiveness, indicating a favorable recovery trajectory. The use of a balanced anesthetic protocol and careful monitoring throughout the surgical procedure contributed to the successful outcome.

6. Conclusion

This study enhances the understanding of the physiological and behavioral responses of black-faced baboons during critical wound surgery. The findings underscore the importance of timely surgical intervention and comprehensive monitoring in improving the welfare of this species in veterinary care.

References

1. Jolly C. Species, subspecies, and baboon systematics. In W. Kimbel & L. Martin (Eds.), *Species, Species Concepts, and Primate Evolution* (pp. 67-107). New York: Plenum Publishing. 1993.
2. Melnick D. Cercopithecines in multimale groups: Genetic diversity and population structure. In B. Smuts, D. Cheney, R. Seyfarth, R. Wrangham, & T. Struhsaker (Eds.), *Primate Societies* (pp. 121-134). Chicago: The University of Chicago Press. 1987.
3. Nowak R. *Walker's Mammals of the World* (6th ed.). Baltimore: The Johns Hopkins University Press. 1999.
4. Primate Info Net. (2000). Olive Baboon (*Papio anubis*). 2003.
5. Groves C. *Primate Taxonomy*. Washington, D.C. Smithsonian Institution Press. 2001.
6. Jolly C. Testicular size, mating system, and maturation schedules in wild anubis and hamadryas baboons. *International Journal of Primatology*. 2003; 24(1): 125-142.
7. Napier J. *The Natural History of the Primates*. Cambridge, Massachusetts: The MIT Press. 1985.
8. Nicolson N. Infants, mothers, and other females. In B. Smuts, D. Cheney, R. Seyfarth, R. Wrangham, & T. Struhsaker (Eds.), *Primate Societies* (pp. 330-342). Chicago: The University of Chicago Press. 1987.