



## Case Report

### Unilateral Spectaculotomy on a Burmese Python (*Python bivittatus*) with Subspectacular Abscess: A Case report

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#### Abstract

A three year old female adult albino *Python bivittatus* weighing 12 kilograms was presented with a chief complaint of right spectacle growth and whitening. The snake also had a respiratory infection which started about 2 weeks prior to being presented. Physical examination showed bubbly nostrils, inflammation on the right eye, inflammation on the right palatum of the oral cavity, and crackling sound during auscultation when exhaling and hissing. The snake was diagnosed with subspectacular abscess and respiratory infection. Spectaculotomy was performed under general and local anesthesia. All abscesses were removed using a sterile sexing probe while continuously flushing the eye. Topical antiseptic was diluted and flushed into the eye before topical antibiotic eye ointment was applied. Post-operative treatment included daily flushing using an intravenous catheter, eye ointment application, and administration of systemic antibiotic and NSAID to treat the co-related respiratory infection. Three weeks after the surgery the snake went through ecdysis, after which the snake regained its appetite and recovery was thereafter significantly improved.

*Key words: Python bivittatus, spectaculotomy, sub spectacular abscess, respiratory infection*

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#### Introduction

*Python bivittatus* is a common snake kept by snake enthusiasts in Indonesia. Despite the maximal size growth of the species, many people still keep this species as pets. Albinism in this particular species is a common finding in captivity and can be obtained through selective breeding. Captive breeding of the *P. bivittatus* is common among private herp breeders all around the globe.

Snakes have its eyes covered by a transparent spectacle (Maas *et al.*, 2010). Moveable eyelids and nictitating membranes are absent in serpents. The cornea of a snake is protected by a fixed and non-moveable layer of transparent spectacle. Spectacles shed off with the skin during ecdysis. The subspectacular space separates the spectacle and the cornea (Lowton, 2019). Subspectacular abscess in snakes is a common eye disorder which is related

to the respiratory infection. Retained spectacle is one of the most common ophthalmic disorders among the herpetoculture (Hausmann *et al.*, 2013).

## Case History

**Signalmen:** A three year old adult albino *P. bivittatus* weighing 12 kilograms. Anamneses: The snake was kept in a 2 x 1 x 0.5 meter enclosure. It was usually fed every 2 weeks, but it stopped eating for almost a month prior to presentation. It was given two doses of albendazole (q2w) about 3 months prior to presentation. Clinical examination: BSC- 5/9. Muscle tone was good and ideal. No ectoparasites were found on the body. Unilateral inflammation on the right eye was noticed with whitish-yellow exudate accumulation at the subspectacular area. The snake had no response to menace test and pupillary light reflex could not be performed due to the accumulation of the exudate behind the spectacle. Oral cavity examination showed unilateral inflammation on the right palatum and yellowish nostril discharge was observed. **Diagnosis:** Subspectacular abscess and respiratory tract infection. **Prognosis:** dubius-fausta, considering the good physical health of the *P. bivittatus*.

**Treatment:** Prior to surgery, fluid therapy (FT) using physiologic solution of 0.9% sodium chloride (NaCl) was given at a dose of 20 mL/kg into the coelomic cavity at the dexter part of the caudal body. The snake was then anesthetized using ketamine 10% at a dose of (15) mg/kg intravenously through the coccygeal vein. Local anesthesia, Lidocaine 2% at a dose of 3 mg/kg, was administered intraspectacular for local analgesic infiltration in the subspectacular. Spectaculotomy was performed by incising the lower half of the spectacle. A blunt and sterile sexing-probe (kept for sterile use and autoclaved) was used to remove all the firm abscesses. Sterile saline was then used to flush the spectacle cavity. Eye antibiotic ointment, oxytetracycline 1%, was diluted with NaCl and flushed into the surgical site. To flush the nostrils, a yellow (24 G) intravenous catheter was removed from the needle and placed into the right nostril. The nostrils were flushed with 5 mL of NaCl using a syringe. The mouth was held open facing downwards, forcing the obstructing mucous out into the palatum through the nasolacrimal duct. Some fluid also came out of the surgical site in the subspectacle area. Systemic antibiotic, enrofloxacin 10% with a dose of 10 mg/kg, was administered intramuscularly at the 1/3 of the cranial part of the body. Non-steroidal anti-inflammatory drug, meloxicam 5 mg/mL at a dose of 0.2 mg/kg, was administered intramuscularly. The python was acclimated at a higher temperature (35°C) after surgery to induce recovery. Post-surgical treatment consists of enrofloxacin (10 mg/kg) q48h for 6 days, meloxicam (0.1 mg/kg) q24h for 2 days and topical eye ointment, oxytetracycline 1%, three times daily for 15 days.

## Discussion

Large constrictor snakes can go for months without food. Since the python had a good body condition, it was not a big concern that the snake was anorexic for 1 month. According to the owner, the snake was dewormed with Albendazole 3 months prior to presentation. Clinical signs of unilateral eye inflammation with whitish-yellow exudate are a common sign of subspectacular abscess (Fleming, 2019). Subspectacular abscess is a common finding in snakes with ophthalmologic lesions (Hausmann *et al.*, 2013). Subspectacular abscess could be related to several reasons, such as post respiratory-infection, spectacle bacterial trauma, or even improper husbandry (Fleming, 2019).

Blockage of the nasolacrimal duct is one of the main reasons for infection to move ascending into the eye and subspectacular area (Cullen *et al.*, 2000). Topical ointments on spectacles do not penetrate into the eye, unless an open wound is present on the spectacle.

The eyelids in snakes are fused to protect the eye (Bellhorn *et al.*, 2018). Abscess in reptiles needs surgically intervention. There are several anesthetic approaches for spectaculotomy in snakes. Local anesthesia alone, mild sedatives with local anesthesia, general anesthesia, and general and local anesthesia are among the choices for surgical sedatives/anesthesia. A blunt sterile snake-probe was inserted into the surgical site to manually remove the entire abscess. The blunt probe reduced the chances of any trauma which could occur during the removal of the abscess. Sterile saline solution was used to flush the surgical wound and remove any small particles of abscess left inside the wound. Topical antibiotic was applied on the surgical wound to prevent further infection (Cullen *et al.*, 2000).

Three weeks after surgery, the snake shed its skin. There were no signs of post-surgery trauma or lesion on the spectacle. Four weeks after surgery, the snake consumed a 2 kilogram pre-killed rabbit.



Figure 1. A: Unilateral eye inflamed with whitish-yellow exudate accumulation in the spectacle area; B: Eye after the removal of the accumulated abscess; C: Inflammation on the right palatum of the maxilla in the oral cavity; D: Healed completely without any trauma remaining after 3 weeks of post-surgery.

## Conclusion

Based on anamneses and clinical examination subspectacular abscess was diagnosed. Subspectacular abscess in snakes is treated with surgical approach on the spectacle by performing a spectaculotomy. Systemic medication along with topical medication showed positive sign of healing. The *Python bivittatus* showed good healing progress in less than 3 weeks.

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