
ENDOSCOPIC LASER LITHOTRIPSY IN A FRESHWATER TURTLE

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ABSTRACT

A 10-yr-old male yellow-bellied slider (*Trachemys scripta scripta*) was presented with acute anorexia and penile prolapse. Radiographs revealed a 2-cm diameter round mineral opacity in the caudal coelomic area, suspected to be a cystic calculus. Cystoscopy was performed under general anesthesia by means of a 2.7-mm, 30° viewing rigid endoscope (Karl Storz, Tuttlingen) housed within an operating sheath.^{1,2} Warm (30°C) sterile saline solution was infused (1 drop every 3 to 4 seconds) to allow distension of the urethral opening. Once access to the urinary bladder was gained, a grossly rounded, bladder stone with irregular surface was visualized. An holmium (Ho:YAG) laser (2100 μm) with a 365 μm probe was then introduced through the endoscope. High-volume irrigation of the bladder with sterile saline solution was performed during the lithotripsy. The holmium laser set for “hard stone” (12 Watt/1.2 Joule/ 10 Hertz), rapidly fragmented the calculus into several parts. Then, the “pulverization” (8 Watt/ 0.7 Joule/ 12 Hertz) setting reduced big parts in tiny fragments. The large fragments were then removed using an endoscope basket, whereas small fragments were flushed out through the urethra.

Laser lithotripsy appeared to be rapid and effective for destruction of a cystic calculus. While cloacal calculi can be safely removed using a low-speed motor dental handpiece and burr and an endoscope, such techniques are probably dangerous for the treatment of cystic calculi.³ Alternative treatment options for removal of cystic calculi in chelonians include plastron osteotomy⁴ and prefemoral fossa coeliotomy.⁵

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