

IT'S YOUR CASE

Species: Tortoise/Turtle

Breed: Russian tortoise

Sex: Female Entire

Age: 1 year

Clinical History:

Patient has been producing clear bubbles from the nose and eyes for the last 4 hours. Patient has been open mouth breathing for the last 4 hours. Substrate for outdoor enclosure is red bark. Patient is outdoor only.

Details of study and technical comments: 3 views of the body are provided for interpretation.

Diagnostic interpretation:

The skeletal structures of the head are radiographically unremarkable, there is no radiographic evidence of a lytic process and there is no clear mass effect or mucoid accumulation. The esophagus and trachea are indistinct. The front limbs have normal features without evidence of fracture, osteomyelitis, or soft tissue injury. At the level of the stomach, there is a fusiform gas filled structure containing formed heterogeneous soft tissue opaque material. The remainder of the coelomic digestive viscera have soft tissue opacity with some gas caps and poorly defined margins. There is no evidence of large intestinal impaction which would be expected to contain radiopaque/desiccated ingesta. The individual diameter of intestinal segments is uncertain. There is reduced coelomic detail that is concerning for free fluid, however a clear discrete horizontal fluid line is not identified. The structures of the hindlimbs are unremarkable without evidence of fracture or osteomyelitis. The carapace has normal appearance. The lungs have normal opacity on all views and faint pulmonary parenchymal septations are apparent. There are no other findings of the coelomic viscera, skeletal structures, or body.



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t. +44 (0)1223 422251 www.vet-ct.com e. info@vet-ct.com

Co Number 6955449 Registered Office St John's Innovation Centre Cowley Road Cambridge CB4 0WS UK

ABN 24601862220 Registered Office in Australia Suite 11, 185-187 High Street Fremantle WA 6160 Australia

This report is based on the available history and radiographic interpretation only and not on a physical examination of the patient. It must therefore only be interpreted by a currently licensed and registered veterinary surgeon responsible for the care of this patient.

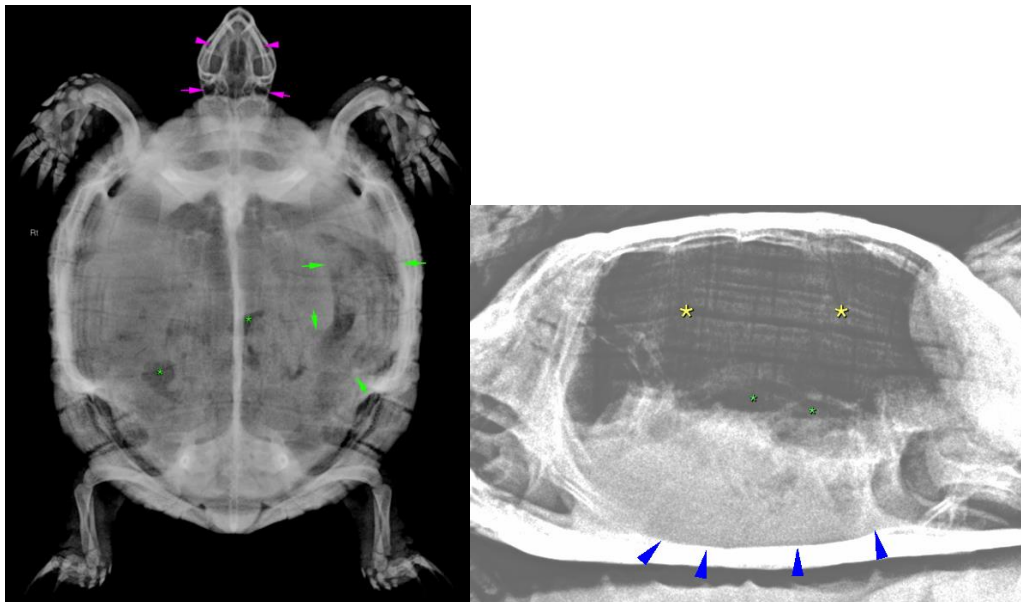


Figure 1, 2. Normal structures of the head include well defined mandible (pink arrow heads) and no evidence of fluid in the middle ear (pink arrows). The region of the stomach contains a moderate amount of gas, with formed soft tissue opaque material (green arrows), while some gas in the coelomic cavity is contained within intestinal viscera (green stars). The overall impression is that the slope detail is reduced (blue arrow heads). The pulmonary tissue is within normal limits (yellow stars).

Conclusions:

1. Gastric dysmotility or aerophagia, with inspissated ingesta or foreign material in stomach (green arrows).
2. Possible coelomic fluid-nonspecific
3. No evidence of radiopaque large intestinal impaction
4. No evidence of increased opacity of sinonasal region or pulmonary tissue
5. Uncertain status of esophagus/trachea
6. No evidence of osteomyelitis or skeletal injury

Additional comments:

A cause of the reported clinical signs should remain open; however, the appearance of the stomach is suspicious. The overall impression is that the visible portions of the upper respiratory tract in the pulmonary parenchymal tissue are within normal limits. More detailed assessment of the head, neck, and coelomic features could be achieved with CT examination if clinically indicated. A positive contrast upper gastrointestinal exam (preferably non-ionic iodinated contrast due to the more rapid transit) may also be performed; however, the stress of this procedure must be considered and the potential for morbidity, depending on the severity of the clinical signs.

Clinical Comment:

The provided history suggests this tortoise has an upper respiratory infection and associated sinusitis. Subjectively the majority of the gastrointestinal tract, other than the stomach, appears more empty than expected. Russian (*Testudo horsfieldi*) tortoises are herbivorous terrestrial tortoises utilizing hindgut fermentation. They consume high fiber forage daily resulting in normal voluminous large intestines.



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Gastrointestinal transit time (3 -28 days) is related to general hydration and ingesta moisture and fiber content as well as environmental temperature parameters. Increased environmental temperatures leads to faster ingesta gastrointestinal transit time. Tortoises with upper respiratory infections are hyporexic, anorexic, and dehydrated. Both can impact gastrointestinal transit time.

Advanced imaging such as whole body CT may provide more details about this individual's sinuses and stomach. Other diagnostics to consider include nasal/oral swab for testudinid herpesvirus (TeHV) and *Mycoplasma agassizii*, plasma protein electrophoresis (EPH), complete blood count, plasma biochemistry, and gastrointestinal endoscopy.

Upper respiratory infections are commonly reported among Russian tortoises. Depending on the causative organism (e.g. testudinid herpesvirus (TeHV) and *Mycoplasma agassizii*) clinical signs can include palpebral swelling, runny nose, rhinitis, stomatitis, dyspnea, open mouth breathing, lethargy, and decreased appetite. Treatment is dependent on cause, but supportive care (hydration, nutritional support, thermal support) is an important component of care.

- Salinas M, Francino O, Sánchez A, Altet L. Mycoplasma and herpesvirus PCR detection in tortoises with rhinitis-stomatitis complex in Spain. Journal of Wildlife Diseases. 2011 Jan;47(1):195-200.
- Bondarenko DA, Peregontsev EA, Neronov VV. Ecological and geographical feeding Peculiarities of the Central Asian Tortoise (*Agrionemys horsfieldii* GRAY, 1844) in desert landscapes. Russian Journal of Herpetology. 2011;18(3):175-84.
- High fiber critical care formula: <https://www.oxbowanimalhealth.com/our-products/professional-line/critical-care>

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