

# Sand Impaction in Capybara

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The capybara (*Hydrochoerus hydrochaeris*) is the largest living rodent in the world. It is native to South America and inhabits savannas and dense forests and lives near water bodies. Capybaras are herbivores, grazing mainly on grasses and aquatic plants, as well as fruit and tree bark in wild. They are very selective feeders some time and will feed on the leaves of one species and disregard other species surrounding it. While they eat grass during the wet season, they have to switch to more abundant reeds during the dry season (Barreto and Herrera 1998). In wild, plants that capybaras eat during the summer lose their nutritional value in the winter and thus are not consumed at that time. The capybara's jaw hinge is not perpendicular and they thus chew food by grinding back-and-forth rather than side-to-side. Capybaras are also coprophagous, who eat their own feces as a source of bacterial gut flora, to help digest the cellulose in the grass that forms their normal diet, and to extract the maximum protein and vitamins from their food (Forero-Montana *et al.* 2003). They may also regurgitate food to masticate again, similar to cud-chewing by a cow (Lord-Rexford 1994). The capybara does not have the capacity to synthesize vitamin C hence been reported to develop gum disease as a sign of scurvy (Cueto *et al.* 2000).

Two male Capybaras (*Hydrochoerus hydrochaeris*) were diagnosed at Riyadh Zoo, Saudi Arabia with emaciation and anorexia a day prior to their death in November 2012. On postmortem examination, body condition appeared severely emaciated.

Mucous membranes were pale and dry. Pulmonary hypostatic congestion and edema was noted ventrally in the lungs of both Capybaras. Endocardial hemorrhages were observed in the left ventricular wall of the heart in the later Capybara. Liver appeared dark in colour and showed necrotic foci on the surface and areas of necrosis around the edges. Stomach and small intestines contained sand and mucoid fluid in the former capybara and were empty and inflated with air in the later one. Gastric and intestinal mucosa showed hemorrhages and congestion. Cecum and colon in the both Capybaras were filled with aggregated sand to the entire lumen. Mucosa of large intestines was necrotic and showed areas of hyperaemia. Urinary bladder was engorged with urine in the later. Kidneys showed discoloration



Photo 1. Dead Capybara

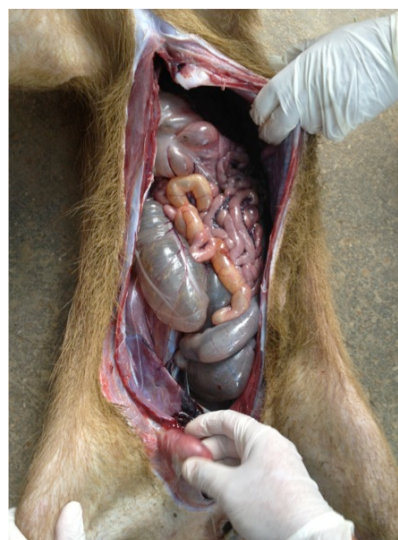


Photo 2. A view of intestine of dead



Photo 3. Another view of intestinal part of dead Capybara

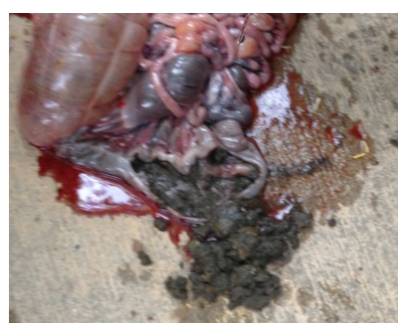


Photo 4. The sand accumulation in intestinal part of dead Capybara

externally, petechial hemorrhages in both cortex and medulla, edema and congestion. Lesions were suggestive of sand impaction colic.

Sand impaction colic is particularly common in horses maintained in dry sandy regions of the world, e.g. Saudi Arabia. This type of colic arises when sand accumulates in the large intestine. The result is impactions of sand, most commonly at pelvic flexure and in right dorsal colon. A milder form of sand colic can also occur due to the abrasive effect of sand on the large intestine. The etiology of the sand impaction in capybaras maintained in the sandy regions can be due to overeating of sand to overcome dietary deficiency of essential minerals and vitamins.

To avoid excessive consumption of the sand and subsequent mortalities in Capybaras in captivity, it is recommended to the zoo managers that diet of the capybara's should be adequately enrich with the minerals and multivitamins, and stomach region of the animals be scanned on regular basis to assess the status of sedimentation of sand in intestinal region for possible intervention if require.

## References

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