

Acute Kidney Injury in Dogs After Raisin & Grape Ingestion

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In the Literature

Reich CF, Salcedo MC, Koenigsgof AM, et al. Retrospective evaluation of the clinical course and outcome following grape or raisin ingestion in dogs (2005-2014): 139 cases. *J Vet Emerg Crit Care (San Antonio)*. 2020;30(1):60-65.

FROM THE PAGE ...

This retrospective study reviewed the clinical course and outcome of dogs after grape or raisin ingestion; a low prevalence of acute kidney injury (AKI) was observed after ingestion.



The study included 139 dogs with known grape or raisin exposure. Raisins were ingested in 87/139 (62.6%) dogs, and grapes were ingested in 51/139 (36.7%) dogs; 1 dog ingested both grapes and raisins. Cases were divided into early and late groups based on time from ingestion to evaluation (early group, ≤ 4 hours [$n = 82$]; late group, > 4 hours [$n = 57$]). In the early group, 38 dogs were treated in-clinic and 44 treated as outpatients. In the late group, 35 dogs were treated in-clinic and 22 as outpatients. The median length of hospitalization was 24 hours in the early group and 36 hours in the late group; duration of hospitalization was significantly longer in the late group.

Vomiting was the most common clinical sign. Other clinical signs, in decreasing order of frequency, included lethargy, polydipsia, diarrhea, polyuria, abdominal pain, and inappetence. Decontamination was performed in 87% of dogs; both emesis and activated charcoal were used in 56% of dogs, activated charcoal alone was used in 19%, and emesis alone was used in 11%.

In dogs for which serum chemistry data were available, incidence of AKI was 8/120 (6.7%); no difference in AKI prevalence was observed between the groups. Two dogs received continuous renal replacement therapy, due to which one dog died from complications.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** In this study, evidence of grapes or raisins was observed in the vomitus of 15 dogs in which emesis was performed. The longest time from exposure to emesis in which grapes were observed in the vomitus was 8 hours; 4 dogs had raisins in the vomitus 12 hours after ingestion. Although the exact toxicant that leads to AKI is unknown, if removal from the GI tract could help prevent AKI, induction of emesis should be considered in patients presented < 6 to 8 hours postingestion, assuming emesis is not contraindicated.
- 2** The International Renal Interest Society (IRIS) AKI staging system was used in this study. For IRIS stage 1 patients (creatinine, < 1.6 mg/dL), any progressive (hourly or daily) increase in blood creatinine > 0.3 mg/dL in the nonazotemic range within a 48-hour interval may suggest AKI.¹ Of the 8 azotemic dogs in this study, 4 met these criteria. Thus, if a patient's creatinine level remains within range but shows a 0.3 mg/dL increase, active AKI is evident and intervention and monitoring should be continued.
- 3** The level of intervention varies by patient, and not all pet owners can afford hospitalization and 48 hours of fluid diuresis. Between both the early and late groups, 66/139 (47.5%) dogs in this study were treated as outpatients. Outpatient care and continued monitoring for patient response to these interventions may result in good outcomes.

Reference

1. International Renal Interest Society. IRIS grading of acute kidney injury (AKI). IRIS website. <http://www.iris-kidney.com/guidelines/grading.html>. Accessed February 2020.