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## Letter to the Editor

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Dear Editor

Recently, a colleague provided me with a copy of an on-line survey purported to have been used to assess the prevalence of urate urolith formation in Dalmatian dogs in a paper published in *JVIM*.<sup>1</sup> I found the survey to be confusing, self-contradictory, and heavily biased towards selecting dogs that had uroliths for the survey, and eliminating dogs from the survey that did not have uroliths. As I am not an expert in the field of survey research, I shared the copy of the survey with two of my colleagues who routinely do survey research. In addition to confirming my observations regarding the survey one of my colleagues raised an additional question: “How did this make it past the Institutional Review Board (IRB)?” This led me to wonder if the survey I had been sent was indeed the survey instrument that had been used for the research reported in *JVIM*. Accordingly, I sent an email request to Dr Bannasch, the corresponding author for this paper, asking for a copy of the IRB approved survey questionnaire. In her response, Dr Bannasch stated that she had been advised that it was not necessary to obtain IRB approval and was unable to locate the survey.

The need for IRB review of any research involving a living human being is unequivocal according to a leading Responsible Conduct of Research text (cf page 95).<sup>2</sup> This is codified by the Department of Health and Human Services<sup>3</sup> (Chapter 1, section A, paragraph 4). Thus the legitimacy as well as the validity of this survey is in question.

Regardless of the lack of IRB approval of this research, the primary issue here is the accuracy of the results reported in the *JVIM* paper.<sup>1</sup> The claim that the prevalence of life-threatening blockage of the urinary tract by urate stones occurs in 34% (34 of 99 dogs surveyed) of male Dalmatian dogs is so disparate from large-scale studies of the prevalence of urate urolith formation in male Dalmatian dogs that the validity of the data obtained from this flawed survey must be challenged.

In a comprehensive study<sup>4</sup> it was reported that 519 of the 10,214 Dalmatians treated at veterinary teaching hospitals in North America between 1981 and 2002 (compiled by the Veterinary Medical Database) had urate containing uroliths. Assuming that there was no redundancy in treatment of these animals, this data suggests that the prevalence of urate-containing uroliths is no more than 5.08% of the population of Dalmatians seen at veterinary teaching hospitals. Gender analysis indicated that the prevalence of urate uroliths in male Dalmatians is 13 times higher (9.76%) than in female Dalmatians (0.86%).

Of note, in their reply to a challenge to the validity of their work by Weiss,<sup>5</sup> the authors claim not to have been concerned with the medical aspects of this disease: “Because we were not performing a study to look at the medical aspects of the disease (i.e., associated clinical signs, treatment, or outcome) it was not necessary to assess these animals through a veterinarian.”<sup>5</sup> Yet in

their abstract Bannasch et al<sup>1</sup> specifically state that the purpose of the study was “. . . to estimate the heritability of the clinical manifestation of urate calculi. . . .” Additional challenges to the validity of studies such as that of the Bannasch et al<sup>1</sup> survey report are contained in a report that was prepared for the Dalmatian Club of America.<sup>6</sup>

It is noteworthy that despite the authors’ claim of concordance with records of their Veterinary Teaching hospital, the internet survey results for male Dalmatians reported a greater than 50% higher prevalence than the hospital-recorded prevalence. And, the survey results were not within the 95% confidence interval of the hospital results as inferred from the *JVIM* paper.<sup>1</sup> Thus the survey results were statistically significantly different from the hospital results! Moreover, in a recent paper Bannasch and Henthorn<sup>7</sup> misquoted the Bannasch et al (2004) *JVIM* paper as having reported, “Clinical manifestations of this change in urinary metabolism are estimated to occur in about 25% of male Dalmatians.”

It is well known that Dalmatians excrete large amounts of uric acid in their urine due to their inability to convert uric acid to allantoin. While this has the potential to have pathophysiological significance, it is also an easily remedied matter. Organ meat, red meat, and seafood are high in purines and purine precursors, which are ultimately metabolized to uric acid. Avoidance of these foods and the use of special diets<sup>8</sup> substantially reduces the formation of uric acid in Dalmatians, lowering their urinary uric acid load. In addition, maintaining high levels of hydration in Dalmatians with frequent opportunities to urinate also minimizes the concentration of uric acid in urine and time during which uric acid crystals can form.

So, perhaps we should take these grains of salt with a grain of salt and *not* jump to the conclusion broadcast to Dalmatian owners that because Dalmatians excrete high amounts of uric acid in their urine there is “a serious health problem in your breed” (as stated in the survey). As with all other domesticated animals, proper husbandry and care is the most effective means by which we can assure their health.

## References

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