

Review of: "The Efficacy of Desmopressin and Imipramine in Retaining the Instilled Suspension in the Bladder"

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Potential competing interests: No potential competing interests to declare.

Comments

Abstract

Overall, the abstract is well-organized and effectively conveys the core aspects of the study. With minor adjustments to provide more context, detail, and specificity, it has the potential to make a substantial contribution to the literature on urinary management in animal models.

Method: Including the criteria for group separation or the timeframe of the study would enhance the readability of the work.

Introduction

A more detailed explanation of the advantages of using orthotopic models over other forms could further strengthen the introduction. Additionally, citing more recent studies would provide a more robust context for the ongoing research in this area.

The implications of decreased urine production on overall animal welfare and the validity of the experimental results could be briefly discussed to provide a balanced view.

Materials & Methods

It might benefit from a discussion about the potential limitations or advantages of using this specific strain in bladder cancer research, considering genetic variability and predisposition to cancer.

Drug Administration and Water Deprivation

Authors should briefly discuss the pharmacological rationale for the chosen dosages, as well as any previous findings that substantiate their effectiveness in similar studies.

Modified Void Spot Assay Study

The methodology for the modified void spot assay is thoroughly explained. However, a clearer explanation of how the results will be quantitatively analyzed or any scoring mechanisms used during the assessment would provide further

clarity.

Methylene Blue Voiding Proof Test

The significance of anesthesia for this test, despite the goal to reduce dependency on it, could be better justified. This might include a discussion on balancing humane practices with experimental needs.

Statistical Analysis

Authors should comment on how they handle multiple comparisons.

Results

Although the authors stated that there was no significant difference between the control and water-deprived or imipramine+desmopressin groups, this was not clearly indicated in Figure 1. Moreover, I don't think that the * should be on the control since other groups were compared to it. Also, imipramine+desmopressin should be written as "imipramine + desmopressin" throughout the manuscript.

A statistical comparison of Table 1 is missing.

Discussion/Conclusion

The study's decision to employ desmopressin and imipramine to reduce urine production and block bladder outflow is innovative. However, while the findings indicate a significant reduction in urination frequency with desmopressin, they highlight a critical shortcoming that it does not enhance the dwelling time needed for tumor engraftment. The reliance on anesthesia still seems inevitable, which limits the practical application of the model for developing long-term studies.

The discussion articulates the limitations encountered in the study, notably the lack of quantification of urine volume and voided methylene blue. This oversight diminishes the strength of their conclusions. Furthermore, the authors acknowledge the restricted sample size, which inherently affects the statistical power of their findings. These admissions reflect commendable transparency regarding their methodology and its implications for further research.

Moreover, the potential conflation of imipramine's administration with increased urination frequency raises valid concerns about the methodology. The authors' presumption that water intake during imipramine administration could confound results demonstrates critical thinking but also exposes a vulnerability in experimental design.

Lastly, the authors call for further research into more effective agents and the use of injectable formulations, which underscores the iterative nature of scientific inquiry.