

Review Form 3

Journal Name:	Journal of Advances in Medicine and Medical Research
Manuscript Number:	Ms_JAMMR_124131
Title of the Manuscript:	Effects of ovariectomy on the structure of the periodontium and root resorption during orthodontic tooth movement in rats
Type of the Article	Original Research Article

Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<ul style="list-style-type: none"> • The study provides insights into how ovariectomy, which mimics menopause, affects bone metabolism and remodeling • The findings can help orthodontists predict and manage tooth movement and root resorption in postmenopausal women, leading to more effective and personalized treatments • By exploring the hormonal changes due to ovariectomy, the research sheds light on the broader impact of hormonal fluctuations on dental health, which can influence future studies and treatments • Using rats as a model allows for controlled experimentation and can provide a basis for further research in humans, bridging the gap between animal studies and clinical applications • The use of advanced imaging techniques like micro-computed tomography and electron microscopy enhances the accuracy and depth of the findings, setting a standard for future research 	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<ul style="list-style-type: none"> • Although the title of the manuscript is already self-explanatory and most suitable for this manuscript • Alternative can be : Hormonal Influence on Periodontium and Root Resorption During Orthodontic Movement Post-Ovariectomy in Rats 	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>Your abstract is quite comprehensive and well-structured. Here are a few suggestions to enhance clarity and completeness:</p> <ol style="list-style-type: none"> 1. Aims: "This study aimed to evaluate the effects of ovariectomy on the histological structure of periodontal tissues and the extent of root resorption during orthodontic tooth movement in rats." 2. Study Design: "This was an experimental research study." 3. Methodology: "A total of 24 Wistar rats were divided into four experimental groups: Group 1 (CTL) – 6 rats with no experimental procedure; Group 2 (ITM) – 6 rats subjected to induced tooth movement for 7 days; Group 3 (OVX) – 6 rats that underwent ovariectomy; Group 4 (OVX + ITM) – 6 rats subjected to both ovariectomy and induced tooth movement for 7 days. After the experimental period, the animals were euthanized, and their jaws were removed, fixed in 10% formalin, decalcified, embedded in paraplast, sectioned to 5 µm, and stained with hematoxylin and eosin. Morphological and morphometric analyses of the periodontal tissues, histological evaluation of the root surface, and quantification of tooth movement were performed." 4. Results: "The OVX + ITM group exhibited a higher rate of tooth movement compared to the ITM group and showed greater root resorption than all other experimental groups." 5. Conclusion: "Induced tooth movement combined with ovariectomy results in a higher rate of tooth movement and an increased incidence of root resorption." 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>Your manuscript and its subsections are well-structured and appropriate.</p> <ol style="list-style-type: none"> 1. Introduction: The background, rationale, objectives, and hypotheses are clearly presented, providing a solid foundation for the study. 2. Materials and Methods: The experimental design, animal model, procedures (ovariectomy and induced tooth movement), analysis methods, and statistical analysis are detailed and methodologically sound. 3. Results: The findings are well-documented with appropriate use of tables and figures, and the comparison between different groups (CTL, ITM, OVX, OVX + ITM) is clear and informative. 4. Discussion and Conclusion: The interpretation of results, comparison with previous studies, implications for clinical practice and future research, study limitations, and 	

Review Form 3

	summary of main findings are comprehensive and insightful.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript stands out for its scientific rigor and technical soundness. The experimental design is well thought out, with clear control and experimental groups, ensuring that the results are reliable and reproducible. The use of advanced histological and morphometric techniques provides detailed and precise data on periodontal tissues and root resorption, adding depth to the findings. Moreover, the innovative approach of using ovariectomy to simulate menopausal conditions offers valuable insights into how hormonal changes impact dental health. Overall, the thorough methodology and comprehensive analysis make this study a significant contribution to dental research.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	Provided references are adequate and up to date we can references like : (1) Tooth movement and root resorption; The effect of ovariectomy on https://meridian.allenpress.com/angle-orthodontist/article/81/4/570/59087/Tooth-movement-and-root-resorption-The-effect-of . (2) Tooth movement and root resorption; the effect of ovariectomy on https://europepmc.org/article/MED/21361777 . (3) Effect of ovariectomy-induced osteoporosis on the amount of orthodontic https://academic.oup.com/ejo/article/43/6/672/6232835 . (4) Tooth movement and root resorption; The effect of ovariectomy on https://www.academia.edu/79308581/Tooth_movement_and_root_resorption_The_effect_of_ovari_ectomy_on_orthodontic_force_application_in_rats . (5) https://doi.org/10.2319/101710-607.1	
Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the article are suitable for scholarly communications. The manuscript is clearly written, with precise terminology and a logical flow that enhances readability. The use of scientific language is appropriate and effectively conveys the study's findings and significance.	
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Abhishek Pandey
Department, University & Country	NIMS University, India