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| Journal Name: | **[Archives of Current Research International](https://journalacri.com/index.php/ACRI)** |
| Manuscript Number: | **Ms\_ACRI\_133181** |
| Title of the Manuscript: | **The influence of periodontitis and dexamethasone on the development and morphology of mouse ovarian follicles** |
| Type of the Article |  |

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* The Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript. |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | The authors aimed to explore the effects of dexamethasone on periodontitis and possible involvement in development and morphology ovarian follicles in mice. In addition, investigate the effect of dexamethasone effect on alveolar bone loss after periodontitis. | This research investigates the relationship between periodontal disease and ovarian function, while also analyzing the effects of dexamethasone in periodontal treatment and its potential repercussions on the ovaries. |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **The title must be more attractive. I suggest" The effects of dexamethasone on periodontitis and possible involvement in development and morphology ovarian follicles in mice".** | Title was changed to "The effects of dexamethasone on periodontitis and the influence of this disease in development and survival of mice ovarian follicles". |
| 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. | **The authors wrote that the experiment lasted two months and determine the time of the experiment between January 2021 and December 2021 (one year). The exact time and season of the experiment should be determined. Determine the number of rats in each group. The author said that "To induce periodontal disease, 4.0 cotton threads was placed around the lower first molars" and not pinpointed the period that the cotton threads lasts around the lower first molar.** | – To induce periodontal disease, 4.0 cotton threads was placed around the lower first molars, over two months, from January to February 2021. Dexamethasone (0.5 mg/kg) was administered intramuscularly, every three days, over two months. After this period, from March to April 2021, the mandibles were decalcified with EDTA and the analysis was carried out in the subsequent months. A total of 32 animals were used, 8 animals per group. |
| Is the manuscript scientifically, correct? Please write here. | Results. I did not understand all results presented in the tables and figures. In the table and figure legend, the letters (a, b, c) used to indicate statistically significant differences. The author did not specify the comparison between which groups (letter (a) vs. which group (dexa, perio or perio + dexa)). In figure 1 legend, the author used: "a, b: different letters indicate statistically significant differences". In the results description of figure 1, the author said that "Mice with induced periodontitis alone or associated with dexamethasone treatment had a significant increase in alveolar bone loss when compared with those from Naïve group or with those treated with dexamethasone (Figure 1) ". Why the (a) letter was used? The same was done in figure 3, table 1, 3 and 4. When describing the results, insert the statistical data (P = …….Group A vs. Group B) for all results including the non-significant effects. Also, add the number of animal used in each parameter in the figure and table legend. | It was standardized that all capital letters next to the group names identify the treatments (Naive [A], Dexa [B,] Perio [C], Perio + Dexa [D]). Lowercase letters (a, b, c) were used to demonstrate statistical significant differences. The P value was added the number of animals in each treatments was added |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Add more references for the effect of dexamethasone on inflammatory diseases and alveolar bone loss after ligature. | In a previous study, it was demonstrated that dexamethasone reduced the production of cytokines induced by bacterial lipopolysaccharides in the cells of the periodontal ligament (Nilsson 2020). |
| Is the language/English quality of the article suitable for scholarly communications? | yes |  |
| Optional/General comments | **1. Highlights should be added.**  **2. Introduction. The last paragraph needs to be revised. The last paragraph explain the rational of the study " it aims to investigate whether dexamethasone influences the inflammatory process and alveolar bone loss related to periodontitis, and whether it has adverse effects on estrous cycle and on the development and viability of ovarian follicles". However, no parameters measured to evaluate the effect of dexamethasone on the inflammatory process as interleukin-1β or nuclear factor-kappa B (NF-ĸB).**  **3. Methods. Measurement of alveolar bone loss. Insert the period of experimental periodontitis (number of days or weeks).**  **4. Discussion. What are the limitations of this study? Is there another variable that should be considered in further studies using the same animal model? Explain the importance of this study for the scientific community.** | 1- Highlights: - Periodontitis increases the rate of degeneration in secondary and tertiary follicles.  - Dexamethasone does not influence the progression of periodontal disease in mice.  - Dexamethasone disrupts the estrous cycle of mice**.**  2-"Investigate whether dexamethasone influences the process of periodontal attachment loss and alveolar bone loss related to periodontitis, and whether it has adverse effects on estrous cycle and on the development and viability of ovarian follicles."  3- After the 60 day experimental periodontitis period, the animals were euthanized, the mandibles were removed and divided in half, of which the right one was used for morphometric analysis.  4-In future studies, other markers of inflammatory cytokines such as IL-6, IL-1, IL-11, TNGα and TGFβ can be evaluated. Additionally, different period of dexamethasone administration can be analyzed, since the dosage and time of use directly influence the side effects of this drug.  This study provides new perspectives on the interactions between inflammatory diseases, immunosuppressive drugs and reproductive health. It opens doors to a deeper understanding of the mechanisms of ovarian function and fertility, as well as guidance on the clinical management of patients with inflammatory conditions such as periodontitis. |

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| **PART 2:** | | |
|  | Reviewer’s comment | Author’s comment *(if agreed with the 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?** | *(If yes, Kindly please write down the ethical issues here in detail)* |  |