

Review Form 3

JournalName:	AsianJournalofAdvancedResearchandReports
ManuscriptNumber:	Ms_AJARR_130197
TitleoftheManuscript:	HistopathologicalandBiochemicalInvestigationsoftheBrainuponSub-acutePentazocineAdministration.
TypeoftheArticle	

PART1:Comments

	Reviewer’scomment	Author’s Feedback (Please correct the manuscript and highlight that part inthemanuscript.Itismandatorythatauthorsshouldwritehis/herfeedback here)
Pleasewriteafewsentencesregardingtheimportance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	<p>Advantagesofthisresearch</p> <p>Theresearchonthetoxicologiceffectsofsub-acutepentazocineadministrationoffersseveral advantages:</p> <p>1. InsightintoOpioidEffects:Thisstudyprovidesvaluableinsightsinto thebiochemicaland histopathological impacts of pentazocine, a commonly used analgesic among sickle-cell disease patients in Nigeria. By evaluating the effects on the cerebral cortex, the research highlights potential risks associated with opioid use, particularly in vulnerable populations suffering from chronic pain (Page 1).</p> <p>2. Identification of Oxidative Stress: The findings indicate significant reductions in antioxidantenzymeactivities,suchascatalase(CAT)andsuperoxidedismutase(SOD),alongside increased levels of malondialdehyde (MDA), a marker of oxidative stress. This suggests that pentazocine may contribute to oxidative damage in the brain, which is crucial for understanding the drug's safety profile (Page 6).</p> <p>3. Pathological Evidence: The study documents specific histopathological changes in the cerebral cortex, including neuronal cell loss and vacuolations, which provide concrete evidence of the drug's neurotoxic effects. This information is essential for healthcare providers to make informeddecisionsregardingpainmanagementstrategiesinpatientswhomaybeatriskofopioid dependence (Page 7).</p> <p>Overall, the research underscores the need for careful consideration of pentazocine's use in clinical settings,particularlyregardingitspotentialneurotoxiceffectsandtheimportanceofmonitoringpatients for signs of oxidative stress and neuronal damage.</p>	Thanks
Isthethetitleofthearticle suitable? (Ifnotpleasesuggestanalternativetitle)	yes	

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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.	yes	
Is the manuscript scientifically correct? Please write here.	<p>To evaluate the accuracy and precision of this study, several important aspects should be considered:</p> <ol style="list-style-type: none">1. Research Design: This study has utilized a randomized controlled trial (RCT) method, which helps reduce biases and increase the credibility of the results. The experimental groups were randomly assigned to four groups, including one control group and three treatment groups with different doses of pentazocine.2. Biochemical and Histopathological Methods: The study has used standard methods to evaluate the activity of antioxidant enzymes (CAT and SOD) and histopathological examinations. These methods help ensure the accuracy and validity of the results, showing a decrease in enzyme activities and an increase in malondialdehyde (MDA) levels in the treatment groups.3. Statistical Analysis: The data were analyzed using one-way analysis of variance (ANOVA) and post-hoc tests. These methods help determine the significance of the results and indicate that the observed differences between groups are statistically valid.4. Limitations: One limitation of this study is the lack of assessment of systemic inflammatory markers in the blood, such as cytokines, to determine brain tissue inflammation. This point is mentioned in the conclusion of the study and highlights the need for further research. <p>Overall, this study has evaluated the toxic effects of pentazocine on the brain cortex using appropriate design, valid methods, and accurate statistical analyses. However, it is important to consider its limitations as well.</p>	Noted and revised
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	<p>Yes, but add</p> <ol style="list-style-type: none">1. Khamooshi F, Doraji-Bonjar S, Akinnawo AS, Ghaznavi H, Salimi-Khorashad AR, and Khamooshi MJ (2023) Dark Classics in Chemical Neuroscience: Comprehensive Study on the Biochemical Mechanisms and Clinical Implications of Opioid Analgesics. Chemical Methodologies 7(12): 964-993. DOI: https://doi.org/10.48309/chemm.2023.414616.17312. Khamooshi F, Akinnawo AS, Doraji-Bonjar S, and Modarresi-Alam AR (2024) Mitragynine Chemistry: Extraction, Synthesis, and Clinical Effects. Chemistry Africa. DOI: 10.1007/s42250-024-00921-6	Ok

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<p>Isthe language/English quality of the articles suitable for scholarly communications?</p>	<p>Middle, It needs polishing and some sentences that are completely red in the similarity finder link below need to be corrected.</p> <p>http://dl.daneshlink.ir/Ms_AJARR_130197.pdf</p>	
<p>Optional/General comments</p>	<p>Benefit of the Research</p> <ol style="list-style-type: none">1. Increase awareness about the toxic effects of pentazocine: This research focuses on studying the toxic effects of pentazocine on the brain cortex and shows that the use of this drug can lead to a decrease in the activity of antioxidant enzymes such as catalase (CAT) and superoxide dismutase (SOD), and an increase in the level of malondialdehyde (MDA), indicating oxidative stress.2. Histopathological analyses: The results of the research indicate that the therapeutic groups treated with pentazocine have significant histopathological changes in the brain cortex, including loss of nerve cells and accumulation of granular cells.3. Attention to clinical needs: This research highlights the need for further investigations into the negative effects of pentazocine in patients with sickle cell disease and recommends caution to physicians and pharmaceutical companies in the use of this drug. <p>Limitation of the Research</p> <ol style="list-style-type: none">1. Limitation in assessing systemic inflammation: One limitation of this research is the lack of evaluation of systemic inflammation markers in the blood, such as cytokines, to determine brain tissue inflammation.2. Animal model: The use of animal models (Wistar rats) may not fully generalize the results to humans, as the physiology of humans and mice is different, which could lead to limitations in the application of the results.3. Lack of long-term effects assessment: This research focuses on the short-term effects of pentazocine and does not consider the long-term effects and side effects resulting from prolonged use of this drug. <p>The study investigates the toxicological effects of sub-acute pentazocine administration on the cerebral cortex, particularly in the context of its use among sickle-cell disease patients in Nigeria. Twenty-eight adult Wistar rats were divided into four groups, with one control group receiving normal saline and the others receiving graded doses of pentazocine (30 mg/kg, 60 mg/kg, and 90 mg/kg) for 14 days. Results indicated a decrease in catalase (CAT) and superoxide dismutase (SOD) activities, alongside an increase in malondialdehyde (MDA) levels in the brain tissues of treated groups, suggesting moderate toxicity and potential inflammatory responses in the brain.</p> <p>Benefit of the Research</p> <ol style="list-style-type: none">1. Increase awareness about the toxic effects of pentazocine: This research focuses on studying the toxic effects of pentazocine on the brain cortex and shows that the use of this drug can lead to a decrease in the activity of antioxidant enzymes such as catalase (CAT) and superoxide dismutase (SOD), and an increase in the level of malondialdehyde (MDA), indicating oxidative stress.2. Histopathological analyses: The results of the research indicate that the therapeutic groups treated with pentazocine have significant histopathological changes in the brain cortex, including loss of nerve cells and accumulation of granular cells.3. Attention to clinical needs: This research highlights the need for further investigations into the negative effects of pentazocine in patients with sickle cell disease and recommends caution to physicians and pharmaceutical companies in the use of this drug. <p>Limitation of the Research</p>	<p>Noted and revised</p>

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	<div>1. Limitation in assessing systemic inflammation: One limitation of this research is the lack of evaluation of systemic inflammation markers in the blood, such as cytokines, to determine brain tissue inflammation.</div> <div>2. Animal model: The use of animal models (Wistar rats) may not fully generalize the results to humans, as the physiology of humans and mice is different, which could lead to limitations in the application of the results.</div> <div>3. Lack of long-term effects assessment: This research focuses on the short-term effects of pentazocine and does not consider the long-term effects and side effects resulting from prolonged use of this drug.</div> <div>This research is of scientific value and publication value for the following reasons:</div> <div>1. Important and relevant topic: The research focuses on the effects of the toxic drug pentazocine on patients with sickle cell disease. This topic is highly important due to the prevalence of addiction to this drug in Nigeria and its impact on brain health.</div> <div>2. Valid methodology: The use of a randomized controlled trial (RCT) and biochemical and histopathological analyses enhance the credibility of the results. This research has employed standard methods to evaluate antioxidant enzyme activity and histopathological examinations.</div> <div>3. Significant results: The results indicate a decrease in antioxidant enzyme activity and an increase in malondialdehyde (MDA) levels in the treatment groups, clearly indicating oxidative stress and brain damage caused by pentazocine.</div> <div>4. Recommendations for future research: The research highlights the need for further investigations into systemic inflammatory markers and the long-term effects of pentazocine, which can contribute to future research and improve pain management in patients with sickle cell disease.</div> <div>Considering these points, this research can serve as a credible source in the field of the effects of pain medication on brain health and pain management in patients, and it has value for publication and dissemination.</div>	
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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?	(If yes, Kindly please write down the ethical issues here in details)	