Review Form 1.7

Journal Name:	**International Journal of Research and Reports in Hematology**
Manuscript Number:	**Ms_IJR2H_97945**
Title of the Manuscript:	**Haematological Alterations in Heat-Stressed Male Wistar rats**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	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)*
Compulsory REVISION comments 1. **Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) 2. **Is the title of the article suitable?** (If not please suggest an alternative title) 3. **Is the abstract of the article comprehensive?** 4. **Are subsections and structure of the manuscript appropriate?** 5. **Do you think the manuscript is scientifically correct?** 6. **Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	1- **Yes, its good topic.** 2- **Yes** 3- **Yes** 4- **Yes** 5- **Yes** 6- **yes** **the abstract of the article must be written in this way.** **Background: Heat stress (HS) occurs due to the global rising temperatures and the exposure of certain industrial workers to hot ambient temperatures. Physiological adaptability to heat stress involves long-term hemorheological modifications. Objectives: The present study evaluated the effect of heat stress on haematological profile using heat stressed Wistar rat models. Twenty (20) apparently healthy male Wistar rats (200-250g, 12- 16 weeks) were used for the study after two (2) of acclimatization under standard animal husbandry conditions. HS was simulated using a heating chamber maintained at 38±1˚C. The animals were randomly grouped into five (5), comprising five (5) animals per group. Group 1 served as the control and was not exposed to HS, while Groups 2, 3 and 4 were exposed to HS inside the heating chamber, regulated at 38±1˚C for 2, 4 and 8 hours respectively for thirty 30 days. Animals were anaesthetized by cervical dislocation and blood was collected by cardiac puncture for haematological analysis: packed cell volume (PCV), haemoglobin concentration (Hb), red blood cell (RBC), white blood cell (WBC), MID cells percentage (MID), lymphocytes, neutrophil and platelet counts were determined using a haematology auto-analyser. Other haematological indices: mean corpuscular volume (MCV), mean corpuscular haemoglobin (MCH), mean corpuscular haemoglobin concentration (MCHC), neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), total lymphocyte count (TLC), plateletcrit (PCT), mean platelet volume (MPV), platelet distribution width (PDW) and platelet large ratio (PCLR) were determined in line with standard formulae. Results: from the study indicated a significantly raised PCV, RBC, Hb, NLR and PLR among the heat-exposed groups compared to the control ($p<0.05$). Also, mean values of WBC, TLC, lymphocytes and MPV decreased compared to the control ($p<0.05$). Conclusion: The current evidence suggests that HS could be responsible for increasing blood viscosity, inflammation, and tissue damage, depressing immune function and disrupting the production and activation of platelets.** **Conclusion must be written in this way:** **Long-term hemorheological changes are involved in the physiological adaptation to heat stress. According to the information from the current study, it seems that HS caused a rise in PVC, RBC, NLR, and PLR levels and a decrease in WBC, TLC, lymphocytes, and MPV. The data points to HS as a potential cause of increased blood viscosity, inflammation, and tissue damage, as well as immune system suppression and disruption of platelet synthesis and activation.**	
Minor REVISION comments 1. **Is language/English quality of the article suitable for scholarly communications?**	Please edit it	
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?	*(If yes, Kindly please write down the ethical issues here in details)*	

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