ABSTRACT

A study was conducted on the effect high core body temperature on the osmotic fragility of red blood cells in rats.

In the study, result obtained shows that there was no effect of high temperature on osmotic fragility of red blood cells. This is because there was no significant difference in the osmotic fragility when control group was compared to other groups (stress and hyoscine) that caused increased in body temperature with the exception of the atropine group, having a P value of 0.0028 with Mean±SEM 0.1109 ± 0.009949. The P value and Mean±SEM for stress and hyoscine are 0.4315 and 0.1819 ± 0.02252, and 0.5173 and 0.1771 ± 0.03913 respectively.

Also, when the temperatures of the groups were compared with control, there was significant difference with P values and Mean±SEM for stress, atropine and hyoscine being 0.0234 and 37.62 ± 0.1068, 0.0010 and 38.22 ± 0.1772, and 0.001 and 38.12 ± 0.1594 respectively.

From this study, it can be seen that a slight temperature increase of about 0.9°C has no significant effect on the osmotic fragility of red blood cells in rats.

Also, it can be seen that stress, hyoscine and atropine cause a significant rise in body temperature. It is recommended that further work be done using other agents like
haemoparasites (*Trypanosoma sp, Babesia sp*) and other classes of drugs like anti-psychotics (chlorpromazine, haloperidol), and anxiolytics (diazepam, tofisopam) that cause hyperthermia to evaluate its effect on osmotic fragility.