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Osmotic fragility of human erythrocytes *in vitro* using *Vipera lebetina* venom

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The objective of this study was to investigate the *in vitro* effect of *Vipera lebetina* venom on human erythrocytes' osmotic fragility with respect to different venom concentrations, time of incubation with the venom, initial volume of red blood cells, and presence of anti-venom. *In vitro* osmotic fragility of human erythrocytes was determined using Dacie and Lewis method. Osmotic fragility is increased significantly after incubation with the venom at different concentrations. The maximal effect was detected at the venom concentration of 400 µg. Time of incubation with the venom was an important factor in hemolytic process while the initial cell volume has no significant effect. Incubation of envenomed erythrocytes for 120 min with anti-venom did not reverse the changes in osmotic fragility induced by the venom. The study suggests that the venom could alter the susceptibility of erythrocytes to hemolysis when subjected to osmotic stress and the degree of hemolysis depends on venom concentration and time of incubation with the venom.

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