The present investigation on the effect of cadmium on several important biochemical processes in the human system have been focussed on two types of circulating cells viz. platelets and erythrocytes. Our approach which involved the *in vitro* system indicated several very interesting changes at the platelet and erythrocyte level following exposure to relatively low concentrations of cadmium. Since platelets and erythrocytes are two of the most important components involved in haemostasis, the object of this study was to carry out biochemical investigations on both erythrocytes and platelets under cadmium treatment *in vitro*. This information on the effect of cadmium treatment on platelets and erythrocytes may provide an insight into the role of cadmium with respect to vascular disturbances.