

CHAPTER VII

CONCLUSION

Cadmium is an industrial and environmental toxic pollutant, which may have adverse effect on vascular endothelium. The conclusions of this study are divided into 2 parts.

In vivo studies:

1. The potential NO consumption by plasma of cadmium-exposed and control subjects is not different.
2. Chronic cadmium exposure increases the levels of soluble thrombomodulin representing endothelial dysfunction.
3. Plasma thrombomodulin correlates with urinary and blood cadmium.

In vitro studies:

1. Cadmium is toxic to human coronary artery endothelial cells (HCAECs) in vitro. LD₅₀ of cadmium on HCAECs following 6, 24 and 48 hours of exposure are 134 ± 2.2 , 116.6 ± 1.4 , and 63.5 ± 1.1 μM , respectively.
2. Cadmium has no effect on eNOS mRNA and protein levels in HCAECs.
3. Cadmium inhibits acetylcholine-induced NO production by HCAECs through blocking eNOS phosphorylation at serine 1177.