CATALASE ACTIVITY IN THE PLACENTA DURING PREGNANCY-INDUCED HYPERTENSION

JOLANTA SACZKO¹, ZBIGNIEW SACZKO², ANNA MARCINKOWSKA¹, ANNA MALARSKA¹, AGNIESZKA CHWIŁKOWSKA¹
and TERESA BANAS¹

¹Department of Medical Biochemistry, Wroclaw Academy of Medicine,
Chałubinskiego 10, 50-368 Wroclaw, Poland, ²Specialized Hospital,
Warszawska 2, 50-368 Wroclaw, Poland

Diseases associated with hypertension in women during pregnancy are often the cause of their death, as well as being significantly responsible for miscarriages and stillbirths and complications with infants’ health, and infant deaths. In most cases of hypertension in pregnant women – especially in pre-eclampsia – the etiopathogenesis remains unknown. In chronic hypertension, the main pathophysiological feature is enhanced arterial tension, whereas pregnancy induced hypertension (PIH) is a symptom of a disorder and a potential cause of complications for pregnant women. The latest studies show that oxidative stress, including an increase in the amount reactive oxygen species (ROS) and inflammation, plays an important role in the pathogenesis of this disorder. There is a lot of information indicating that the placenta is the focus of the pathological alterations. The placenta uses a lot of oxygen in its function. Oxidative stress is an imbalance between pro-oxidant and antioxidant forces. This research was undertaken to determine placental catalase activity. The presence of the catalase (CT) was investigated by means of immunoblotting of proteins. CT activity was measured via the Bears and Sizer method. The presence of CT was shown by western blott. The results revealed a difference between CT activity in pathological placentas and CT activity in normal placentas. The immunoblotting of CT showed a difference in quantity between normal and pathological placentas.