

of the representative nutritional survey the population intake was around 2 mg/capita/day, but the lowest and highest levels showed very wide range of intake (0-40 mg/capita/day).

Lycopene has an excellent antioxidant capacity, its preventive and health-promoting properties are well-known and widely proved epidemiologically and experimentally, as well. Climate conditions in Hungary make possible to produce very valuable tomato fruits either economically or nutritionally. Increased consumption of fresh tomato and tomato-based foodstuffs can play an important role in the risk reduction of non-communicable diseases which are in connection of diet and especially increased free radical reactions.

Our preliminary data during the investigation of injuries following suprarenal aortic clamping in rats

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During various surgical interventions (for example: organ transplantations, vascular surgery, tumor removal) it is often necessary to clamp aorta and/or greater arteries for shorter or longer period of time, which disturbs the blood supply of organs/regions and during the following reperfusion as postoperative complications, further injuries can occur. As its most serious complication, systemic inflammatory response syndrome or as part of the syndrome, multiple organ failure can evolve. In our experiments, we aimed to investigate the development of the triggering factors of this condition, and to set up a suitable, appropriate experimental model for also studying the protection of this condition.

Adapting C. J. Shields et al. (2003) aorta occlusion model with small modification, a 30-minute ischemia followed by a 120-minute reperfusion was examined in male Wistar rats. We used 60mg/kgbw of thiopental for anesthesia. After cannulation of femoral artery, blood samples (0.5 ml per each) were taken before ischemia, prior to clip removal, and at the 1st-20th-60th-120th minutes of the reperfusion. The blood-gas analysis and the hematological parameters were immediately measured, and to determine the liver enzymes' levels we stored plasma samples on -70 C° degree until usage. The controls were sham-operated animals.

According to the blood-gas analysis, the pH levels remained within physiological range in both groups (pH = 7,35 – 7,45), the arterial pCO₂ and pO₂ values presented small changes during the experiments. Within hematological parameters the amount of white blood cells significantly increased in the I/R groups compared to controls and the extent of ascent was 50% at the end of the reperfusion. Some important parameters of red blood cells showed slight changes. The liver enzymes, especially the GOT levels increased with 67% towards the end of the reperfusion and the GOT/GPT proportion raised in the I/R groups as well.

In our in situ rat model, according to the examined parameters after I/R systemic inflammation, microcirculatory problems of some organs and results showing hypoperfusion damages were obtained. To determine the multiple organ failure and also for further standardization, we are continuing our researches.

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