

The thermoelectric method by Hensel was used for recording the local blood flow in the coecal wall, liver, kidney, musculature and skin of anesthetized rabbits before and after exposure to high explosive shock waves in a detonation chamber or to an explosive decompression from an overpressure to atmospheric pressure. Systolic and diastolic carotid artery pressures were recorded simultaneously by means of a mechano-electronic blood pressure recorder. Body temperature was checked throughout most of the experiments and was kept constant by gently warming the animals.

In the blast-injured animals there was an instantaneous drop in systemic blood pressure and the local blood flow in the coecal wall was immediately reduced by about 25 per cent in slightly injured and by 40 to 50 per cent in severely injured animals. After a few minutes blood pressure and blood flow increased again but often showed another drop after 5 to 10 minutes. After 10 to 15 minutes the blood flow generally became stabilized on a somewhat reduced level. Also in liver and skin the local blood flow decreased after the exposure. No reliable flow values could be obtained from the kidneys or musculature of the blasted animals due to technical difficulties.

In the group of explosively decompressed animals a minor decrease in blood flow in the coecal wall as well as in the liver and femoral musculature was recorded already during the raising of the pressure in the chamber, probably due to compression of the animal. Also in the explosively decompressed animals central and peripheral blood flow decreased immediately after the exposure. The drop in blood pressure was less pronounced in these animals than in the blasted ones. With one exception, only slight to moderate lung injuries were suffered by the explosively decompressed animal.