VIth International Congress on Thrombosis and Haemostasis

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LEUCOCYTE ADHERENCE TO ARTERIAL ENDOTHELIUM. H.N. Mayrovitz, M.P. Wiedeman, and R.F. Tuma. (Al
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Adherence of leucocytes to the endothelium of microvessels is one of the initial responses seen after tissue injury. Leucocyte adherence and their occasional emmigration into adjacent tissue is considered to mark the beginning of an inflammatory process. The underlying mechanisms responsible for the initial adherence is unknown. A method of studying this problem *in vivo* is complicated by the fact that most experimental preparations to expose the microvessels for direct microscopic observation involve surgery which itself is sufficient to promote adherence. In the present studies, laser irradiation of microregions of tissue at various distances from arterioles in the intact bat wing were used to probe the time course of trauma-induced changes in leucocyte-vessel wall interaction. It was found that, for equivalent tissue injury, the time required for normally nonadherent leucocytes to begin sticking and rolling along the arterial wall was dependent on the square of the distance between tissue injury site and the vessel wall. At a fixed distance, the latency time decreased by an amount which was inverse related to the extent of tissue injury. The measured latency times, which ranged from 15 to 400 seconds, shows that the primary mechanism causing leucocyte adherence may act much more rapidly than previously thought. Calculations indicate that the measured latency times may be accounted for either by a laser released tissue substance having a diffusion coefficient of 5×10^{-7}, or possibly due to temperature elevation of the vessel wall by heat from the laser beam.

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Thrombosis
- [ ] Diagnosis
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BASIC STUDIES

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Cellular
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