

Publication

Activated endothelial cells induce neutrophil extracellular traps and are susceptible to NETosis-mediated cell death

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Author(s) Gupta, Anurag Kumar; Joshi, Manjunath B; Philippova, Maria; Erne, Paul; Hasler, Paul; Hahn, Sinuhe; Resink, Therese J

Author(s) at UniBasel [Erne, Paul](#) ; [Resink, Thérèse J.](#) ;

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Neutrophil interaction with activated endothelial cells (EC) is required for transmigration. We examined consequences of this interaction on NETosis. Co-culture of activated EC with neutrophils induced neutrophil extracellular trap (NET) formation, which was partially dependent on production of IL-8 by activated EC. Extended neutrophil/EC co-culture resulted in EC damage, which could be abrogated by inclusion of either diphenyleneiodonium to inhibit the NADPH oxidase pathway required for NETosis, or DNase to disrupt NETs. These findings offer new insight into mechanisms whereby NETs trigger damage to the endothelium in sepsis, small vessel vasculitis and possibly the villous trophoblast in preeclampsia.

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