MORPHOLOGICAL HETERGENEITY OF INTRACORONARY THROMBUS IN PATIENTS WITH STEMI

Poster Contributions
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Background: Morphological data of thrombus responsible for STEMI is derived from autopsy with its inherent limitations. A detailed compositional analysis of the ex vivo thrombi aspirated during primary PCI in patients with STEMI is lacking.

Methods: Thrombectomy specimen from 15 patients with STEMI were subjected to serial 5 micron cryotomy, immuno-stained using a panel of antibodies for platelets(CD42a-PerCP,CD41a-PerCP,PAI-1-FITC, leukocytes(DAPI,CD14- PE-Cy5,CD11b-PE-Cy5,CD3-FITC,CD20-FITC,Vimentin-Alexa Fluor-647, Fibrin(FITC). The sections were analysed with a 3-color immuno-microscope and cells quantified by measuring the intensity the specific fluorophore. 10 high power fields were analysed in each section. Using a grid provided in the software the total number of leucocytes and their subpopulation were counted.

Results: Distinct polarization of the distribution of platelets, leukocyte and fibrin was observed. The granulocytes (DAPI+ CD14- CD3-/ CD20-) accounted for 89.5 % of the leucocytes. The monocytes (DAPI+ CD14+) accounted for 10.5 % of the leukocytes. CD3+ was only very scarcely present and no CD20+ B lymphocytes were observed. The leukocytes intensely expressed CD11b (MaC-1) and vimentin.

Conclusions: Heterogenously distributed aggregates platelets and leukocytes were the integral component of thrombus. Since CD11b can function as a fibrin receptor, its expression on thrombi leukocytes suggest that it may play import role in thrombus formation and stabilization.