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MACROSCOPIC EVALUATION OF BRONCHOALVEOLAR LAVAGE FLUID MAY SUGGESTS THE PERCENTAGE OF SIDEROPHAGES

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Objective: Aim: Macroscopic evaluation of bronchoalveolar lavage fluid (BALF) and presence of pigmented macrophages (PM) may suggest the higher percentage of siderophages that helps to diagnose a diffuse alveolar hemorrhage. Methods: In Division of Pulmonary Cytology, University Hospital Centre Zagreb, 43 BALFs stained with Hematognost FeR were retrospectively analyzed. BALFs were macroscopically categorized as normal color, pink, brown and hemorrhagic. BALFs were routinely prepared and stained with May Grünwald Giemsa (MGG) and microscopically analyzed. BALFs cytopspins with enlarged number of PM were stained with the staining kit for detection of free ionic iron (Fe³⁺) in cells and microscopically analyzed. The percentage of siderophages among macrophages was calculated. Results: Retrospective analysis of 43 BALFs showed 10 normal color, 11 pink, 14 brown and 8 hemorrhagic samples. In 10 normal color BALFs macrophages were present in mean percentage of 84, 5%. Mean of PM was 54% and mean of siderophages was 22, 1% (range 1-100%). In 1 normal color BALF siderophages were not found. In 11 pink BALFs macrophages were present in mean percentage of 73, 9%. Mean of PM was 54, 1% and mean of siderophages was 18, 2% (range 1-92%). In 1 pink BALF siderophages were not found. In 14 brown BALFs macrophages were present in mean percentage of 98, 8%. Mean of PM was 57, 2% and mean of siderophages was 9, 8% (range 1-50%). In 2 brown BALFs siderophages were not found. In 8 hemorrhagic BALFs mean percentage of macrophages was 68, 3%. Mean of PM was 57, 5% and mean of siderophages was 64, 6% (range 1-100%). Conclusion: The hemorrhagic BALF with dominant pigmented

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macrophages may suggest the higher percentage of siderophages. According to literature >20% of siderophages in BALF may refer to diffuse alveolar hemorrhage within other diagnostic findings.