

Poster presentation

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## High membrane expression of CD163 by bone marrow cells is not a specific marker of macrophage activation syndrome (MAS)

C Bracaglia\*<sup>1</sup>, R Devito<sup>2</sup>, A Insalaco<sup>1</sup>, PS Buonuomo<sup>1</sup>, A Campana<sup>1</sup>, E Cortis<sup>1</sup> and AG Ugazio<sup>1</sup>

Address: <sup>1</sup>Division of Rheumatology, Department of Pediatric Medicine; IRCCS, Ospedale Pediatrico Bambino Gesù, Rome, Italy and <sup>2</sup>Division of Pathology, Department of Laboratory; IRCCS, Ospedale Pediatrico Bambino Gesù, Rome, Italy

\* Corresponding author

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### Background

MAS is a life-threatening complication seen predominantly in children with SoJIA, often difficult to recognize because specific diagnostic criteria for MAS have not yet been devised. MAS is characterized by an overwhelming inflammatory reaction driven by excessive T cell expansion and hemophagocytic macrophages. Preliminary studies suggest that high sIL-2R  $\alpha$  serum levels and sCD163 might be useful as diagnostic markers for MAS. This study assesses the expression of CD163 and CD68 in bone marrow cells of patients with MAS and especially in those with SoJIA who developed MAS.

### Methods

Thirteen bone marrow biopsies (BMB) were performed, 7 on patients with MAS secondary to SoJIA, 6 with virus-induced HLH. Fifteen BMB controls were included. Immunohistochemical staining was performed using monoclonal antibodies directed against CD163 and CD68.

### Results

CD163 immunoreactivity was characterized by a strong, granular cytoplasmic or cytoplasmic and membrane staining pattern. The macrophage marker CD68 showed a granular cytoplasmic pattern. Increased numbers of macrophages were observed in the bone marrow of all MAS and HLH samples. CD163 expression in macrophages was

brighter than that of CD68. CD163 expression was similar in MAS associated with SoJIA and in virus induced HLH.

### Conclusion

Our data demonstrate that CD163 in BMB is restricted to the monocyte/macrophage lineage but is not specific for MAS. Furthermore CD163 is similarly expressed by macrophages from biopsies of both SoJIA and HLH patients. This antibody is a marker of activated macrophages but cannot differentiate patients with MAS from patients with other diseases of the macrophage lineage.

### References

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