Prog Health Sci 2015, Vol 5, No1 Monocytes and macrophages in asthma pp 176-184

The role of different monocyte subsets and macrophages in asthma pathogenesis

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ABSTRACT

Monocytes are comprised of three phenotypically and functionally distinct subsets: classical CD14++CD16-, intermediate CD14++CD16+ and non-classical CD14+CD16++ cells that can play differential roles in regulation of both systemic and local inflammatory processes. In addition, these monocyte subsets represent differential developmental stages with CD16-positive monocytes being the most mature cells that can be considered direct precursors of tissue macrophages. Monocytes and, most significantly, monocyte-derived macrophages constitute an important component of both normal and asthmatic airways. Here we summarize the current knowledge on the roles of monocytes and macrophages in asthma pathogenesis. In addition, we discuss here the usefulness of standard and potential monocyte-directed anti-asthmatic therapeutic approaches.

Key words: monocytes, asthma, monocyte subsets, macrophages, glucocorticoids