Inflammation in rats born to mothers treated with dexamethasone 15cH during pregnancy: an immunohistochemical study

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ABSTRACT

In previous studies, we observed that rats born to mothers treated with dexamethasone 15CH (10-33M) had a higher level of mast cell degranulation and greater arteriolar dilation after the exposure of an inflammatory stimulus, suggesting the possibility of vertical transmission of the effects of ultra-diluted substances between mother and offspring. In this study, a more detailed assessment of the cellular events in acute inflammation was made using techniques of immunohistochemistry. The identification of adhesion molecules expression was made by the markers: anti-CD54 (ICAM-1) and anti-CD18 (ß2-Integrin). The identification of inflammatory cells was performed by the markers anti-MAC387 (mononuclear cells) and anti-CD163 (active macrophages). Polymorphonuclear cells were identified by hematoxylin-eosin staining. The number of labeled cells per field was recorded, except for the anti-CD54 marker, whose intensity of staining on the endothelial cells was defined by scores assigned by two independent observers. The results point toward to an *up regulation* of the whole inflammatory process in rats born to mothers treated with dexamethasone 15CH during pregnancy. This conclusion is justified by the following statistically significant ($p \leq 0.05$) findings: a) bigger mast cell degranulation and increased of arteriolar diameter; b) increased migration of polymorphonuclear cells in relation to the mononuclear cells; c) earlier expression of CD163 in monocytes, d) higher level of adhesion molecules expression.

Keywords: dexamethasone, pregnancy, high dilutions, inflammation.

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