Cellular and molecular differences in cleft palate susceptibility in mice

Diferencias celulares y moleculares en la susceptibilidad a la fisura palatina en el ratón.

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The aim of this study was to identify possible candidate genes for the susceptibility to cleft palate. We studied hyaluronic and glycoprotein levels with morphometric and histochemical techniques, in palatine processes of 13 and 14 days old mouse embryos of strains A/Sn and C/57 BL, that are respectively susceptible and resistant to glucocorticoid and non steroid anti-inflammatory drug induced cleft palate. At 13 days, in palatine processes of the resistant strain and when these are still vertical, there was a significantly higher amount of extracellular matrix, constituted principally by hyaluronic acid. These differences disappeared at 14 days, when the processes became horizontal. The basal membrane of the medial palatine epithelium of the susceptible strain, showed interruptions due to a lower amount of glycoproteins. It is concluded that the observed differences in the amount and quality of these molecules, are a consequence of genetic differences that could determine the suscepti