ATOPIC ECZEMA/DERMATITIS

CORD BLOOD SERUM LEVELS OF IL-31 AND CCL-17 CORRELATE WITH CUTANEOUS MARKERS IN PREDICTING THE DEVELOPMENT OF ATOPIC ECZEMA AT ONE YEAR: AN OBSERVATIONAL STUDY

Am D'erme [1] - C Tuoni [2] - F Papadia [3] - M Franzini [3] - A Boldrini [2] - P Ghirri [2] - A Paolicchi [3] - G Bagnoni [1] - A Nannipieri [4] - A Chiricozzi [4] - M Romanelli [4]

Unit Of Dermatology, Livorno Hospital, Livorno, Italy [1] - Unit Of Neonatology, University Of Pisa, Pisa, Italy [2] - Unit Of Pathology, University Of Pisa, Pisa, Italy [3] - Unit Of Dermatology, University Of Pisa, Pisa, Italy [4]

Atopic eczema (AE) is an inflammatory, pruritic, chronically relapsing skin disease occurring often in families with other atopic diseases. To date, apart from family history, there is no way of accurately identifying which newborns may be at greater risk of AE development and who might therefore benefit most from pharmacological and non-pharmacological intervention.

AIM: This study aims to determine the predictive role of serological biomarkers, as CCL chemokines CCL17, CCL18, CCL22,CCL27, IL-31, and TSLP , in correlation with the TEWL and hydration rate (H+) and with the AE development at one year of life.

METHODS: Cutaneous and serological data were evaluate at birth, and at 1, 6 and one year in order to predict the AE development.
At birth 10 ml cord blood sample was obtained from consecutive 40 full-term delivered newborns.
At age of 1, 6 and 12 months the TEWL of antero-cubital fossa and anterior part of knee and the H+ rate were measured in the same cohort. At 12 months diagnosis of AE was performed. The study was approved by the local ethic committee in Pisa and fulfilled the Declaration of Helsinki Principles.

RESULTS: The study revealed that patients with AE signs at 12 months showed antero-cubital fossa TEWL values at 1, 6 and 12 month significantly higher compared to those without AE signs(P< 0.01).Our study demonstrated that CCL17 and IL-31 cord blood serum levels were significantly higher in atopic group (p<0.01).

DISCUSSION: We have shown that changes in skin barrier in asymptomatic infants at first

month, and
confirmed at 6,12 months predate clinical AE.We also demonstrated that CCL17 and IL-31 levels were higher in patients that developed AE, highlighting the potential of cord serum levels of these cytokines to serve as a useful predictive marker for the onset of AE in infancy,together with cutaneous markers.