ABSTRACT BOOK ABSTRACTS



PAEDIATRIC DERMATOLOGY

INVESTIGATION OF PEDIATRIC SENSITIVE SKIN: CHARACTERIZATION BY IN VIVO APPROACH AND DEVELOPMENT OF AN IN VITRO MODEL

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Introduction: Sensitive skin affects around 50% of adult population. Concerning children, previous work indicates a prevalence of sensitive skin over 30% under 6 years old. The differences between a "normal" immature skin of infant and a "specific" sensitive skin remain unclear.

Objective: In this work a clinical study was performed to investigate the sensitive skin syndrome in a pediatric population. Based on clinical findings, an in vitro skin model mimicking the features of pediatric sensitive skin was developed.

Materials and Methods: Concerning the clinical study, two panels (normal and sensitive skin) each composed of three groups of children (3-6 months, 6-12 months, 24-48 months) have been recruited using a specifically developed questionnaire. Clinical evaluation, instrumental measurement and biological assays have been performed to document sensitive skin. Concerning the in vitro model, reconstructed epidermis was topically treated by lactic acid.

Results: Results show that sensitive skin is dryer and more erythematous than normal skin in children. No differences on TEWL and microcirculation have been found. All these findings were confirmed on the adult panels, which demonstrate the relevance of the survey developed for the identification of sensitive skin in children. Sensitive skin was associated with a particular inflammatory profile with increased expression of specific cytokines and noticeable levels of poly-unsaturated fatty acids (PUFA) C18:2 and C20:4. In vitro we observed an increased production of inflammatory cytokines IL1-alpha, II1-RA and IL8; as well as pro-inflammatory PUFA C18:2 and C20:4; thus, mimicking the features of pediatric sensitive skin observed in the clinical study.

Conclusions: To our knowledge, this is the first study characterizing sensitive skin in a pediatric population by means of clinical, instrumental and biochemical investigations. Based on these findings, we were able to develop an in vitro model reproducing the main features of pediatric sensitive skin.





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