MELANOMA AND MELANOCYTIC NAEVI

S-100 SERUM PROTEIN IS ELEVATED IN CHILDREN WITH CONGENITAL MELANOCYTIC NEVI.

Alejandra Tomás Velázquez [1] - Carmen Ceballos [2] - Marta Ivars [3] - Juan Carlos López Gutiérrez [4] - Pedro Redondo [1]

Clínica Universidad De Navarra, Dermatology, Pamplona, Spain [1] - Fundación Jiménez Díaz, Dermatology, Madrid, Spain [2] - Clínica Universidad De Navarra, Dermatology, Madrid, Spain [3] - Hospital Universitario La Paz, Pediatric Surgery, Madrid, Spain [4]

Background: S-100 is a dimeric acidic-calcium-binding protein found in melanocytes, neural cells and other tissues such as muscle. It seems to act in cell differentiation and proliferation. Serum concentration of S-100 determinations have been used in melanoma patients as possible marker of disease progression, with a cut-off level established at 0.12µg/L. Furthermore, some authors have reported the utility of serum S-100 levels in determining the severity and mortality of ischemic strokes and severe head injuries. Our search of the literature failed to find serum determinations in non-melanoma melanocytic tumors.

Objective: The main objective of this prospective, observational, 2-center, case-control study was to determine if serum S-100 protein levels are high in children with congenital melanocytic nevi. Secondly, we sought to describe the possible relationship between nevi characteristics and serum S-100 levels.

Materials and Methods: 40 patients who had congenital melanocytic nevi (CMN), admitted in the Pediatric Surgery and Dermatology Departments of Hospital Universitario La Paz and Clínica Universidad de Navarra, respectively, were included. CMN were categorized following Krengel's recommendation. Other 40 age-and-sex matched children without skin diseases in which peripheral blood samples were going to be obtained for other reasons, were included as controls using left-over sample. Peripheral blood samples were collected, centrifuged and serum was transferred to analyzed S-100 protein concentrations using an electro-chemiluminescent immunoassay method (Roche Diagnostics).

Results: Patients with congenital melanocytic nevi showed S-100 serum concentrations higher than controls (0.3760µg/L vs 0.06 µg/L; $p<0.05$). Most of CMN patient had undergone surgery as treatment, noting a decrease in serum S-100 concentration after surgeries. In a patient without surgery treatment, two different determinations showed an increase in S-100 concentration.

Conclusions: Most patients with congenital melanocytic nevi present high serum S-100 protein concentrations. Further statistical analyzes are required to determine possible clinical, prognostic or treatment implications.