Andean high-altitude ancestry does not protect from acute mountain sickness and altitude-induced arterial hypoxemia

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It is thought that adaptive changes protect high-altitude populations against altitude-induced diseases, but information from well controlled studies is lacking. In a prospective, controlled study, we assessed the prevalence of acute mountain sickness (AMS) and severity of altitude-induced arterial hypoxemia in non-acclimatized Aymara and non-Aymara children and adolescents during the first 48h after rapid ascent by bus from sea level to 3500masl. To exclude confounding protective effects conferred by developmental changes induced by being born or living at high altitude, only children and adolescents who were born and had been permanently living at sea level were included. In 91 healthy non-acclimatized Chilean children and adolescents (37 with Aymara high-altitude ancestry, 54 non-Aymaras), we assessed for AMS (Lake Louise scoring system) 6, 18 and 42h after a 2.5h ascent by bus to a high-altitude research station located at 3500masl. The overall prevalence of AMS (Aymaras, 22 of 37,