2-Aminoethyldiphenylborinate modifies the pulmonary circulation in pulmonary hypertensive newborn lambs partially gestated at high altitude

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© 2016 the American Physiological Society. Calcium signaling through store-operated channels (SOC) is involved in hypoxic pulmonary hypertension. We determined whether a treatment with 2-aminoethyldiphenylborinate (2-APB), a compound with SOC blocker activity, reduces pulmonary hypertension and vascular remodeling. Twelve newborn lambs exposed to perinatal chronic hypoxia were studied, six of them received a 2-APB treatment and the other six received vehicle treatment for 10 days in both cases. Throughout this period, we recorded cardiopulmonary variables and on day 11 we evaluated the response to an acute hypoxic challenge. Additionally, we assessed the vasoconstrictor and vasodilator function in isolated pulmonary arteries as well as their remodeling in lung slices. 2-APB reduced pulmonary arterial pressure between the 3rd and 10th days, cardiac output between the 4th and 8th days, and pulmonary vascular resistance at the 10th day of treatment. The pulmonary vasoconstrictor response