Reduced skin reactivity to vasoconstrictor and vasodilator substances in atopic eczema.

Atopic eczema is a common chronic inflammatory disease with itchy skin and altered skin reactions to acetylcholine and nicotinic acid compared to healthy non-atopic individuals. The aim of this study was to evaluate skin reactivity to 11 vasoactive substances and peptides by skin prick and intradermal tests in 20 patients with atopic eczema and 20 healthy controls. Skin reactions, blanching, wheal and flare areas were measured by planimetry, 15 minutes after provocation. Patients with atopic eczema had significantly smaller reactions at certain concentrations of the vasodilators acetylcholine, bradykinin, calcitonin gene-related peptide, substance P and vasoactive intestinal peptide for flare, and of substance P and vasoactive intestinal peptide for wheals, in intradermal testing and/or skin prick testing. Testing of the vasoconstrictors angiotensin-II, arginine-vasopressin, endothelin-1 and noradrenaline in atopic eczema resulted in significantly smaller reactions at certain concentrations for blanching in intradermal testing and/or skin prick testing. Significantly smaller reactions were seen with arginine-vasopressin for wheals and with arginine-vasopressin and noradrenaline for flares in intradermal testing and/or skin prick testing at certain concentrations. Significantly larger wheals were seen with angiotensin-II and endothelin-1 in
intradermal testing and/or skin prick testing at certain concentrations. No significant differences were found for prostaglandin E2. These results demonstrate not only a reduced responsiveness to vasodilators but also to vasoconstrictor substances and peptides in patients with atopic eczema, which may be considered a general feature of atopic eczema skin.