

Risk factors for systemic reactions in typical cold urticaria: Results from the COLD-CE study

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Abstract

Background: Cold urticaria (ColdU), that is, the occurrence of wheals or angioedema in response to cold exposure, is classified into typical and atypical forms. The diagnosis of typical ColdU relies on whealing in response to local cold stimulation testing (CST). It can also manifest with cold-induced anaphylaxis (ColdA). We aimed to determine risk factors for ColdA in typical ColdU. **Methods:** An international, cross-sectional study COLD-CE was carried out at 32 urticaria centers of reference and excellence (UCAREs). Detailed history was taken and CST with an ice cube and/or TempTest® performed. ColdA was defined as an acute cold-induced involvement of the skin and/or visible mucosal tissue and at least one of: cardiovascular manifestations, difficulty breathing, or gastrointestinal symptoms. **Results:** Of 551 ColdU patients, 75% (n = 412) had a positive CST and ColdA occurred in 37% (n = 151) of the latter. Cold-induced generalized wheals, angioedema, acral swelling, oropharyngeal/laryngeal symptoms, and itch of earlobes were identified as signs/symptoms of severe disease. ColdA was most commonly provoked by complete cold water immersion and ColdA caused by cold air was more common in countries with a warmer climate. Ten percent (n = 40) of typical ColdU patients had a concomitant chronic spontaneous urticaria (CSU). They had a lower frequency of ColdA than those without CSU (4% vs. 39%, p = .003). We identified the following risk factors for cardiovascular manifestations: previous systemic reaction to a Hymenoptera sting, angioedema, oropharyngeal/laryngeal symptoms, and itchy earlobes. **Conclusion:** ColdA is common in typical ColdU. High-risk patients require education about their condition and how to use an adrenaline autoinjector.

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Keywords

adrenaline autoinjector, cold urticaria, COLD-CE, risk factors, systemic reactions

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