

Figure 1. Diagnostic workup of patients presenting with a history suggestive of Aquagenic Urticaria

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Patient presenting with a history of flooding itchy rashes triggered by skin contact with water (for example, when taking a shower, bathing or swimming)

General data

Gender: M F
 Age: _____
 Familial history of atopy: No Yes
 Personal history of atopy: No Yes
 Allergic Dermatitis Respiratory Allergy Food Allergy Other (hymenoptera, type I drug allergy...)

Comorbidities (thyroid diseases, gastrointestinal diseases, autoimmune diseases, others): _____

Coexistence of other urticarias: No Yes
 Cold Urticaria Symptomatic dermographism
 Cholinergic Urticaria Other CndU
 Chronic Spontaneous Urticaria

Aquagenic was: The primary reason for consultation Casual discovery while taking history for another problem. In particular, did the patient present with a request of patch testing for the suspicion of allergic contact dermatitis to cosmetic products such as shampoos or shower gels? No Yes

Aquagenic specific data

Age at onset: _____ Duration (y): _____
 With time, signs and symptoms: Have improved Have become worse Have not changed

Family history of similar cases? No Yes Another siblings Other _____

Types of water (and related activities) that trigger signs and symptoms

Tap water: No Yes Showering Bathing
 Washing face Washing hands
 Other (e.g. drinking water) _____

Swimming pool water: No Yes Not known

Sea water (sea bathing): No Yes Not known

Rain: No Yes

Sweat: No Yes Always/often*
 Only when the skin is really wet with sweat

Tears: No Yes

Saliva: No Yes

Other: _____

* consider/test for cholinergic urticaria as possible differential diagnosis or comorbidity

Signs and symptoms (skin) Itch Erythema Wheals Angioedema

Body areas affected: Face (lower) Face (all) Neck Upper chest Upper back
 Shoulders Abdomen Whole trunk Upper limbs
 Lower limbs Other specific: _____ Generalized

Systemic symptoms: No Yes Respiratory distress/wheezing Difficult swallowing
 Dizziness Syncope Other: _____

Time of appearance of wheals after the start of water contact: 5'-10' 10'-15' 20'-30' >30'

Time of resolution of wheals after the end of water contact: 10'-15' 15'-30' 30'-60' >60'

Are signs and symptoms influenced by the duration and amount of water contact? for example are they more severe after swimming or after a long shower? No Yes Not sure
 are they milder/resolve earlier if the water is wiped off soon after contact? No Yes Not sure

Is the temperature of the water of any relevance? No Yes* Not sure*

* consider/test for cold urticaria or heat urticaria as possible differential diagnosis or comorbidity

Was the problem ever treated with a standard dose of any antiH1? No Yes, with _____
 Complete control Marked improvement Partial improvement No improvement

Were higher doses of antiH1 tried? No Yes, with _____
 Complete control Marked improvement Partial improvement No improvement

Was the patient ever treated with Omalizumab? No Yes, with _____
 Complete control Marked improvement Partial improvement No improvement

Investigations

Full blood count: _____
 C reactive protein: _____
 Total IgE: _____
 Anti-TPO antibodies: _____
 Other investigations (based on patient history): _____

Water challenge

Localized Water Challenge Tests (with tap water and salty water, in all patients)
 By means of soaked cloths or towels applied on opposite sides, for 20' at room temperature

Body area tested: Mandibular/peri-auricular zone and neck Neck and décolleté Upper arm and shoulder
 Upper back Chest Abdomen Thigh Other: _____

Results

Tap water: Wheals and erythema: _____ Itch intensity: 0—1—2—3
 Neg. +/- = ++ = +++

Salty water (3.5% NaCl): Wheals and erythema: _____ Itch intensity: 0—1—2—3
 Neg. +/- = ++ = +++

Full Body Water Challenge Test (with tap water, in selected patients)
 for 15' with lukewarm water without any concomitant use of shower/bath products
 Shower Bath

Results

Tap water: Wheals and erythema: _____ Itch intensity: 0—1—2—3
 Neg. +/- = ++ = +++

Were supplementary water challenge tests tailored on the patient's history performed to confirm a doubtful diagnosis? No Yes (specify): _____

All patients should undergo a localized water challenge test with both tap and salty water (3.5% NaCl), at room temperature, by means of well soaked cloths or towels applied, each on one side, to the specific body areas indicated by each patient as more likely to be reactive. The application should last for 20'. Patients who do not react to the localized challenge tests should be asked to undergo, at home, a full body water challenge test, in the form of showering or both immersion, for 15 minutes, with lukewarm tap water without any concomitant use of shower/bath products. The consequent skin reactions should be documented by clear pictures taken with their smartphones. Supplementary water challenge tests tailored on the patient's history should be performed whenever necessary to confirm a doubtful diagnosis. The intensity of positive reactions can be scored as follows:
 +/- patches of faint itchy erythema
 + few (2-4) small wheals surrounded by erythema
 ++ 5 to 10 sparse wheals surrounded by erythema
 +++ confluent erythema scattered with more than 10 wheals
 The intensity of pruritus can be scored from 0 (absent) to 3 (very intense) with a simple visual scale

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