

**RESEARCH LETTER**

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Allergy in the elderly: A case note review of referrals to an adult allergy clinic

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Summary

The UK population is ageing and we can expect more referrals to allergy clinics for this age group. 16% of patients to our clinic are aged >60. Compared to younger patients, 3 times as many referrals were for angioedema. Overall, allergy was excluded in 79% of cases. 15% were diagnosed with previously unrecognised allergies, while allergic disease was confirmed in 6%, enabling optimised management. While the differential diagnosis of allergic conditions is wider in older people, assessment in the allergy clinic is helpful and adds value.

KEYWORDS

anaphylaxis, angioedema, epidemiology, immunologic tests

To the editor:

The prevalence of IgE-mediated disease increased significantly during the 20th century. In developed countries, about 20% of people have atopic disease, which consumes significant amounts of healthcare funding. For example, in UK general practice, allergic conditions account for 6% of consultations and ~10% of prescribing costs.¹

While most studies of allergy focus on children and adolescents, relatively little has been written about allergy in older people, although food allergy may be increasingly common in this group.² Some food allergies in older people have persisted since childhood; others arise in later life,^{3,4} possibly due to loss of oral tolerance⁵ or dietary deficiencies. For example, zinc deficiency is associated with decreased Th1 cytokine activity but normal Th2 cytokine activity, thus favouring the development of allergy.⁵ Food allergies may also be related to antacids and proton pump inhibitors, commonly prescribed in the elderly. These drugs reduce protein breakdown in the stomach, allowing dietary proteins to reach distal intestinal mucosa intact where they may induce allergic sensitization.⁵

The differential diagnosis of allergic conditions is wider in older people, not least because they take more medications and are more likely to need anaesthetics. This increases the chance of suffering adverse drug reactions, while comorbid conditions may mask (or enhance) allergic symptoms.

Over 10 million people in the UK are aged >65, and this figure will double by 2050.⁶ If, as predicted, the prevalence of allergies in the elderly increases, there are major implications for allergy clinics and GPs. Over time, we should expect that an increasing number of older people will be referred to allergy clinics as the current younger allergic cohorts age and are joined by those developing allergies in later life.

As there are few data on how older people currently present with allergic problems, we undertook a retrospective analysis of referrals and assessments of people aged ≥ 60 attending the Royal Sussex County Hospital allergy clinic. We believe this is the first published review of older patients attending a secondary care allergy clinic. Over 32 months, the referral letters for all newly referred patients aged ≥ 60 were reviewed, together with the clinical notes of those who attended. The referral reason, suspected triggers, diagnostic tests and final diagnosis were tabulated. When there was more than 1 referral symptom, the most serious was recorded as the referral reason (eg patients referred with angioedema and anaphylaxis were classified as anaphylaxis). To compare the reasons for referral, we also analysed the records of 828 patients aged <60 referred to the same clinic.

Sixteen percent (208/1300) of new referrals to the allergy service were aged ≥ 60 . Nineteen were excluded from our analysis as they failed to attend clinic or had been wrongly assigned to the

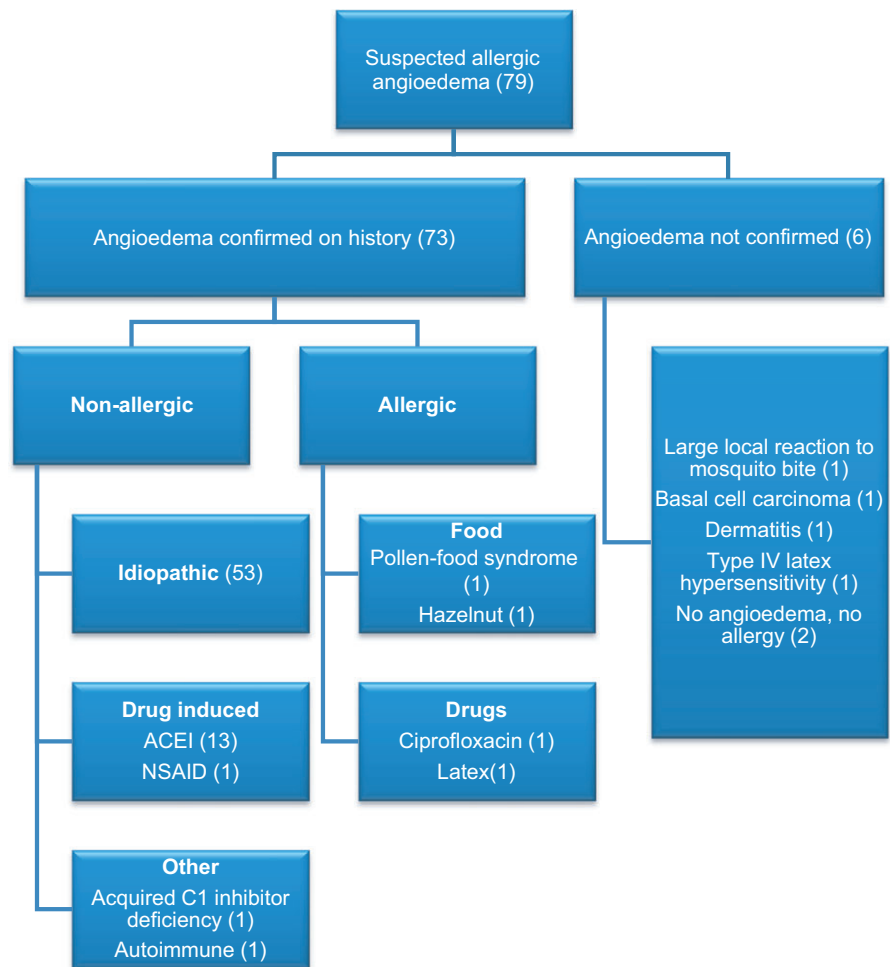


FIGURE 1 Analysis of 79 cases of angioedema in patients aged >60, with causes where identified

allergy service. The remaining 189 patients had a mean age of 68.4 years; 69% were female.

Angioedema was the commonest reason for referral (42%), followed by anaphylaxis (20%), urticaria (11%) and rhinitis (9%). The remaining 18% had gastrointestinal symptoms, asthma, cough, pruritus, oral allergy syndrome, eosinophilia or mouth ulcers. The range of conditions for which older patients were referred was similar to those in younger people, but proportionately more older patients were referred with angioedema. The corresponding case mix in patients aged <60 were angioedema 14%, anaphylaxis 23%, urticaria 19%, rhinitis 15% and other problems 29%. 15% of the older patients were diagnosed with “new” allergies (ie previously unrecognized), while in 6% confirmation of allergic disease enabled optimization of their management.

A total of 165/189 patients (87%) had ≥ 1 investigation, while the remainder (13%) were diagnosed as non-allergic on history alone. 43% patients had skin prick tests (SPTs); 25% had specific serum IgE tests. Most in vitro allergen tests were done because relevant allergen extracts were unavailable; some in vitro tests were needed for dermographism or recent ingestion of antihistamines. 47% patients had other blood tests (complement, antinuclear antibodies, thyroid function). Three (2%) had skin biopsies.

Nine patients (5%) underwent spirometry. Four of these were referred with suspected asthma: one had airflow obstruction but the other 3 had normal spirometry and were diagnosed with obesity, GORD or intermittent laryngeal obstruction. One patient with rhinitis had asthma (confirmed on spirometry). Four other patients with normal spirometry were referred for cough (diagnoses: postinfective cough [n = 2], GORD [n = 1], sulphite intolerance [n = 1]). Two chest X-rays and 1 chest CT scan were performed for chronic cough with no abnormalities identified.

During the consultations, allergy was excluded as the cause of symptoms in 149/189 (79%) older patients. A total of 24/149 patients (16%) were diagnosed as non-allergic on history alone; the other 125 (84%) needed additional tests before confirming non-allergic status. The proportion of older patients without an allergic basis for their symptoms is similar to that reported elsewhere in other age groups and we stress that exclusion of allergic causes is a legitimate role for specialist allergy services.

Twenty-two of the remaining 40 patients (55%) were identified as allergic to previously unsuspected allergens. In only 18 were the patients allergic just to things mentioned in the referral letters. Overall, where specific allergens were mentioned in the referral letter, in only 29% of cases were these triggers confirmed. When the referral

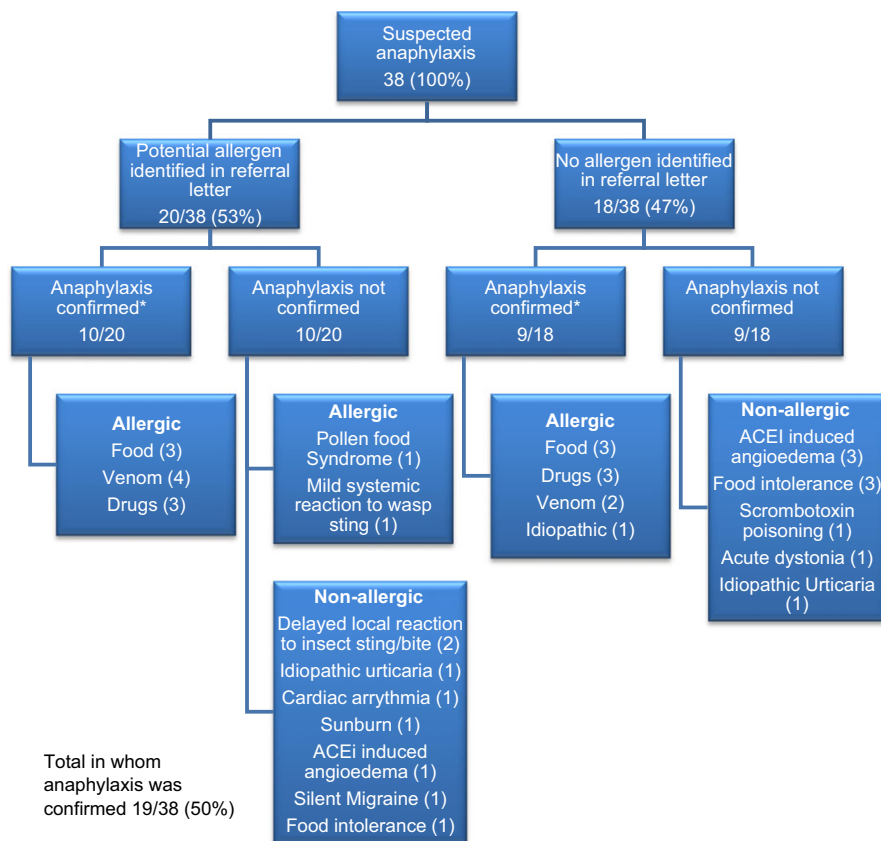


FIGURE 2 Breakdown of 38 cases of anaphylaxis in patients aged >60, with causes where identified. *Anaphylaxis was confirmed as the clinical diagnosis when symptoms met the definition, “a severe life threatening generalised or systemic hypersensitivity reaction”

mentioned specific foods as possible triggers, the confirmation rate was even lower (<1/4 cases confirmed). This reflects the common tendency for symptoms compatible with allergy to be attributed to allergic triggers even if the evidence for a causal link is weak. It remains useful to know about suspected triggers in referral letters, but this should not be relied upon.

Of 79 patients referred with angioedema, the diagnosis was confirmed in 73 (Figure 1). Four patients referred with anaphylaxis were reclassified as angioedema following a thorough review of their history (Figure 1). In patients with angioedema, allergic triggers were mentioned in 38% of referrals but almost all were non-allergic. A total of 4/17 patients (24%) referred with suspected drug allergy were drug-allergic: 3 of these 4 had had anaphylactic reactions to general anaesthetics.

Of 38 patients aged ≥ 60 and referred with anaphylaxis, 50% had histories compatible with “severe, life-threatening generalized or systemic hypersensitivity reactions”.⁶ In the 10 true anaphylaxis cases where referrers suggested trigger allergens, all were correct (Figure 2). However, in 18 of 38 anaphylaxis referrals, no specific trigger was proposed. Nine of 18 had histories consistent with true anaphylaxis, and specific allergens were identified in 8 of these 9. The commonest trigger for anaphylaxis in older patients referred to our clinic was food, especially shellfish. Increasing rates of shellfish allergy have been noted worldwide at all ages, probably due to increased availability and consumption rather than ageing.⁷

It is important to thoroughly evaluate suspected anaphylaxis in older people as they are at increased risk of death due to comorbidities and concurrent medication.⁸ Our data suggest that where the history of anaphylaxis is clear-cut, it is usually possible to identify culprit allergen(s). 95% of those referred with anaphylaxis had identifiable causes: this is similar to other outpatient surveys where 95% had an identifiable cause for anaphylaxis,⁹ although fewer triggers are identified in the emergency setting.¹⁰ Allergy was rarely responsible for symptoms in patients referred with urticaria; only 1 of 20 was allergic (to crab). Of 6 patients with difficult-to-treat asthma, 2 had non-allergic asthma, 3 had no evidence of airways obstruction and only 1 actually had allergic asthma. In contrast, of 17 patients referred with rhinitis, half had allergic disease.

This preliminary review of older patients in allergy outpatients is not without limitation. It focuses on only 1 hospital, but the proportion of the population aged ≥ 60 in Brighton (22.6%) is similar to UK national averages (22.1%), so these data are probably generalizable. It will be useful to see whether the patterns found here are stable over time and between localities. We encourage other services to explore their workload, now and in future.

In conclusion, 1 in 6 of the patients referred to our service is aged 60 or over. Most of our patients (87%) had some investigation (s). Clarity regarding allergic causes was achieved in all cases. In only 18/189 (9.5%) was the diagnosis as per the referral letter, so over 90% of cases benefitted from the outpatient assessment.

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How to cite this article: Gray NJ, Redshaw EL, Isaacs D, Tarzi MD, Smith HE, Frew AJ. Allergy in the elderly: A case note review of referrals to an adult allergy clinic. *Clin Exp Allergy*. 2018;48:1238–1241. <https://doi.org/10.1111/cea.13179>