Aeroallergen Skin Prick Test patterns in suspected allergic patients in Northern Melbourne

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RESEARCH WEEK
5-9 OCTOBER 2020
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Introduction, Aim, Method

INTRODUCTION

Approximately 20% of Australians suffer from an allergic condition. Geographic and climate differences have been shown to affect patterns of allergic sensitisation. Recognising sensitisation patterns may guide the testing, identification and treatment of allergies.

Skin Prick Testing (SPT) is one of the primary methods for identifying the presence of allergen specific IgE.

AIM

Describe the aeroallergen sensitivity patterns for people with suspected allergic disease in Northern Melbourne.

Examine aeroallergen sensitivity relationship with gender, age and birth location.

METHOD

- A retrospective analysis of the Northern Health Respiratory Laboratory clinical reporting database of aeroallergen SPT conducted in the 24 months from February 2018
- 821 patients who meet the inclusion criteria for SPT were included
- Atopy defined by a positive SPT response to at least one allergen (Figure 1)

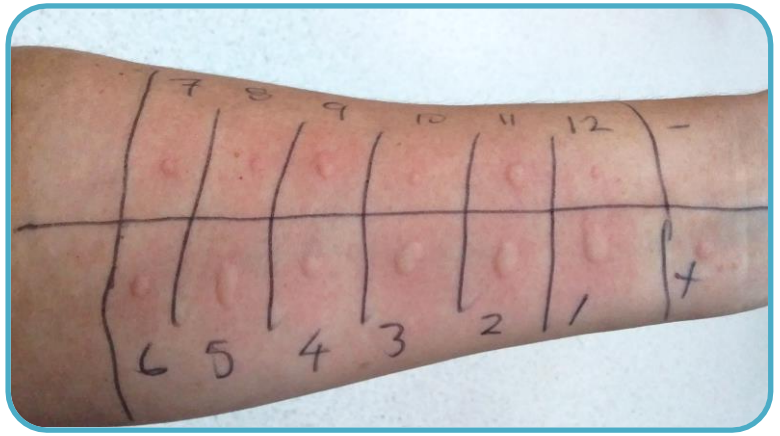

Figure 1. SPT on forearm with atopy confirmed by a wheal response ≥3mm

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Results

RESULTS

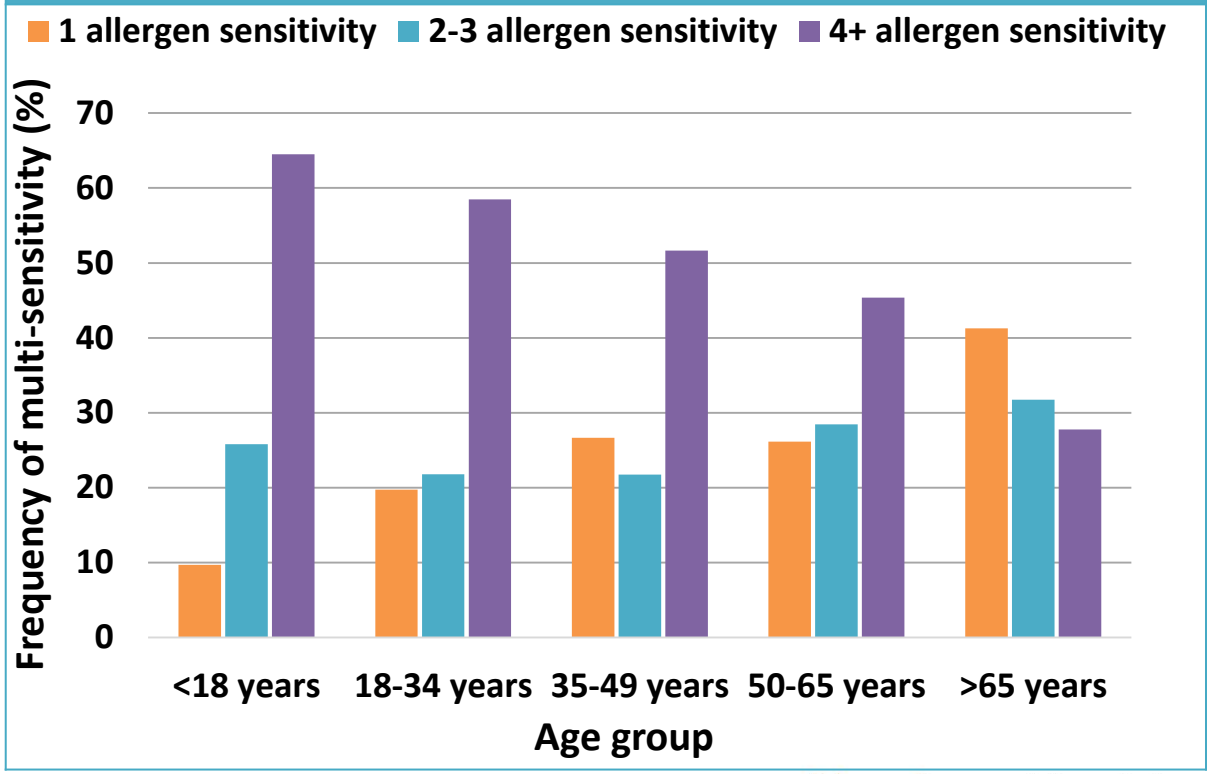
The mean age of the population was 46.3 years (SD, 17.7), with 67.6% of population atopic. Atopy was more frequent in the younger age groups and is also influenced by birth location.

Table 1. Factors effecting aeroallergen sensitivity

Factor	Group	n patients	% of atopy	*p* value
Gender	Female	532	67.11	0.73
	Male	289	68.51	
Age groups	<18	38	81.58	<0.001
	18-34	190	77.37	
	35-49	249	73.90	
	50-65	213	61.03	
	>65	131	48.09	
Location of Birth	Australia	443	72.01	<0.001
	Asia	52	80.77	
	Europe	97	41.24	
	Middle East	94	62.77	
	Sub-Continent	79	67.09	

Within the atopic population, the sensitivity to multiple allergens decreases with increasing age.

Figure 2. Multi-sensitivity in atopic population with age



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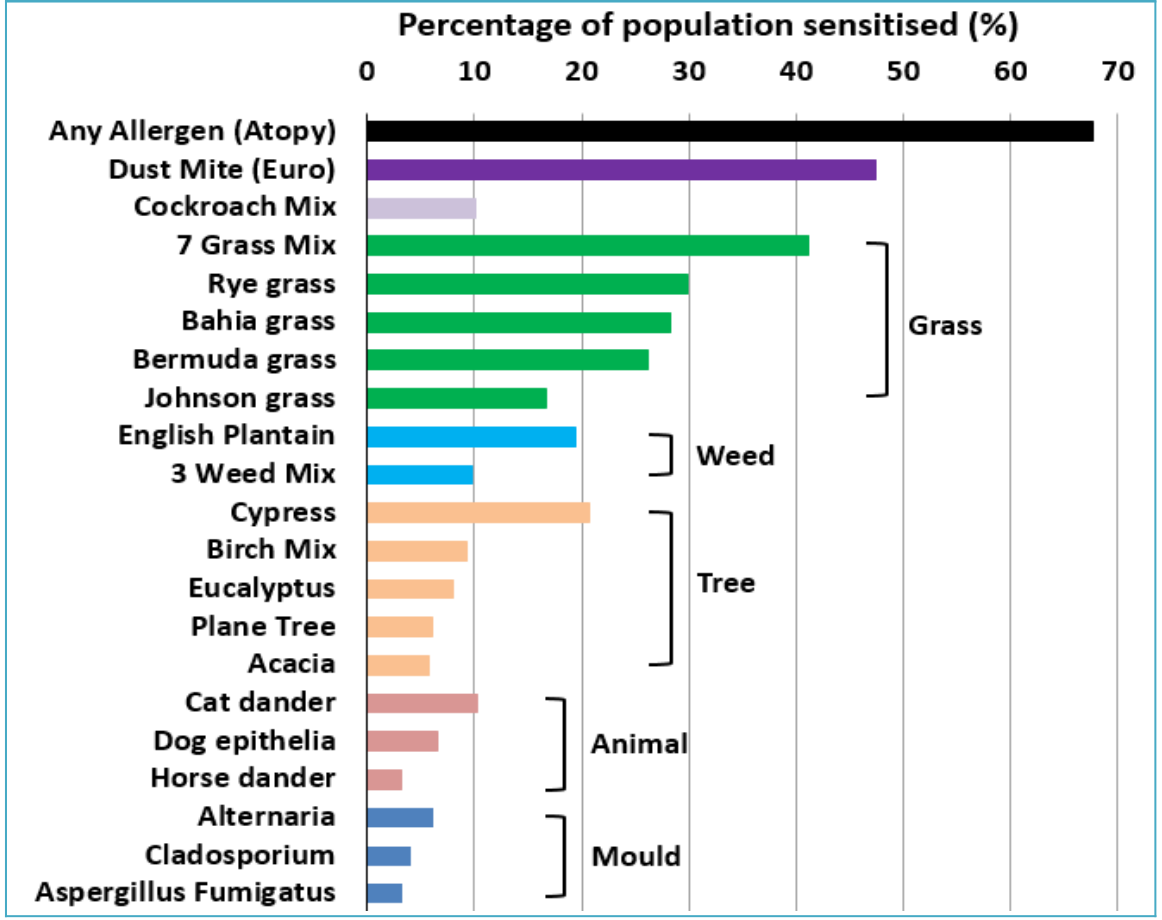
Results, Conclusion

Figure 3. Overall aeroallergen sensitivity pattern in suspected allergic patients



RESULTS

Those with atopy are most likely to have sensitivity to dust mite and grasses (Figure 3).

CONCLUSION

Two-thirds of those with suspected allergy were confirmed to be atopic on SPT.

Most were sensitized to dust mite and grass allergens, with animal and mould allergies less frequent.

Aeroallergen sensitisation patterns were shown to be influenced by age and birth location, but not gender. While atopy and multi-sensitivity decreases with advancing age.

Improving the understanding of regional sensitisation patterns may assist clinicians with allergy management strategies including avoidance and desensitisation.

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