**Ethnicity differences in clinical and cardiac magnetic resonance imaging findings in patients with Hypertrophic Cardiomyopathy in a multi-ethnic New Zealand population**

Background:

It is unknown whether there are ethnicity differences in hypertrophic cardiomyopathy (HCM) phenotypes in New Zealand. This study describes the clinical and imaging characteristics of patients with HCM who underwent cardiac magnetic resonance (CMR) imaging in Te Whatu Ora Counties Manukau’s multi-ethnic population.

Method:

160 (102 men, 58 women) patients with HCM who underwent CMR between August 2017 and September 2024 were identified from the Aotearoa New Zealand All Cardiology Services Quality Improvement (ANZACS-QI) CMR reporting registry. The distribution of left ventricular (LV) hypertrophy was classified into 4 patterns: (1) isolated septal hypertrophy; (2) isolated apical hypertrophy; (3) mixed apical/septal hypertrophy; (4) “other” hypertrophy pattern.

Results:

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| --- | --- | --- | --- | --- | --- | --- |
|  | **Total****(n=160)** | **Māori****(n=28)** | **Pasifika****(n=36)** | **Asian****(n=54)** | **European/other****(n=42)** | **P-value** |
| Age (years) | 51.8 ± 13.4 | 52.0 ± 13.6 | 44.8 ± 12.3 | 54.1 ± 12.3 | 54.8 ± 13.7 | 0.003 |
| BMI (kg/m2) | 30.9 (7.2) | 33.0 (6.8) | 37.5 (7.7) | 26.8 (4.3) | 29.0 (5.0) | <0.01 |
| HCM distribution  |  |  |  |  |  | 0.0078 |
| Pure Septal | 83 (51.9) | 18 (64.3) | 17 (47.2) | 22 (40.7) | 26 (61.9) |  |
| Pure Apical | 9 (5.6) | 1 (3.6) | 0 (0) | 4 (7.4) | 4 (9.5) |  |
| Mixed septal/apical | 31 (19.4) | 7 (25.0) | 4 (11.1) | 16 (29.6) | 4 (9.5) |  |
| Other distributions | 33 (20.6) | 2 (7.1) | 14 (38.9) | 10 (18.5) | 7 (16.7) |  |

Data shown as n (%) or mean ± SD. The distribution data of 1 Pasifika, 2 Asian and 1 European/other patient were missing and not included in the analysis.

The distribution of hypertrophy differed by ethnicity (p=0.0078). Māori and Europeans were more likely to exhibit isolated septal hypertrophy (64.3% and 61.9%) compared with Pasifika (47.2%) and Asians (40.7%). Mixed apical/septal hypertrophy was more common in Asians (29.6%) and Māori (25.0%) than Pasifika (11.1%) or Europeans (9.5%). “Other” LV hypertrophy patterns were more prevalent in Pasifika (38.9%) compared to Asian (18.5%), Europeans (16.7%) or Māori (7.1%).

Conclusion:

The pattern of hypertrophy in HCM differs between ethnic groups in New Zealand.