

How long does it take for coronary artery aneurysms to resolve after Kawasaki disease?

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Introduction. Kawasaki disease (KD) is the commonest acquired heart disease in the Western world, with incidence 9.2/100,000 under 5 years in the UK. 25% will have coronary artery aneurysms (CAA+) despite intravenous immunoglobulin therapy. At the current time, the time course for outcome of smaller aneurysms is not clear in the Western Europe population.

Methods. We retrospectively studied all children with a new diagnosis of KD from 1.1.00 to 31.7.16 in our cardiac network (population 5.8 million). Demographics (including height and weight) and echocardiographic data were recorded, along with the coronary size at diagnosis and at each follow-up. Z scores were recorded or calculated and those with $z \geq 2.5$ were classified CAA+. Data is presented as median (range), $p < 0.05$ was significant (Kruskal-Wallis).

Results. 443 patients (281 boys 63.6%) with diagnosis of KD, presented at 42 months (18 days – 15 years). 420/426, where treatment was known, received immunoglobulin along with high dose aspirin. 92 (20.7%) had CA involvement. For CAA+ vs CAA- there were more boys (67% vs 62%, $p=0.04$), and they were younger (453 vs 1440 dys, $p=0.00021$). 81 had involvement of the left main CA and 59 of the right CA. 28 had bright coronaries but with $z < 2.5$ all resolving in 124 (30-404) days. All but 1 (2.9%) of 37 with z between 2.5 and < 5 resolved in 284 (20-5534) days. Of those 17 with z between 5 and < 10 , 29% did not resolve but the rest did in 456 (127-2508) days. Of those 10 with giant aneurysms of $z \geq 10$, 80% did not resolve and the rest took up to 4831 days to do so. Those who were over 1 year with z score > 10 never resolved, whereas some of the younger children grew fast, helping to normalise the CAA+.

Conclusions. We present a large population based series of KD and show, for the first time in Europe, the time course of CAA+ resolution at different z scores. Such CAA+ are more likely to be severe in younger boys, but even small aneurysms may persist in the long term.