PERSPECTIVE

Support for GPs in the fight against ARF and RHD

SANDRA DOWNING MAE, MPH&TM, RM, RN
SARA NOONAN RN, BHLTHSCI (RESEARCH)

Acute rheumatic fever (ARF) predominantly affects young people in rural and remote Indigenous communities. However, it is more common than previously thought in urban areas, and it is likely that milder or atypical cases are being missed. Prevention and treatment programs for ARF and rheumatic heart disease (RHD) in Australia have increased in recent years, and their focus is moving towards a co-ordinated national approach.

Key points

- **Australia has some of the highest reported rates of acute rheumatic fever and rheumatic heart disease in the world.**
- **Jurisdictional control programs are the key support for primary healthcare providers.**
- **Evidence-based best practice guidelines are available online, in hardcopy or via a smart device app.**
- **New accredited clinician e-learning modules have been recently launched.**

CARDIOLOGY TODAY 2014; 4(4): 28-30

Ms Downing is an Epidemiologist and Ms Noonan is a Technical Advisor at RHDAustralia, Darwin, NT.

Rheumatic heart disease (RHD) is a preventable, chronic disease that is generally associated with poverty and poor living conditions. RHD is the most common cardiovascular disease in young people under the age of 25 years in developing countries.[1] Globally, it is estimated that there are 282,000 new RHD cases and 233,000 RHD-related deaths annually; however, these figures are considered to be underestimates.[1]

RHD results as a consequence of acute rheumatic fever (ARF), a self-limiting inflammatory illness triggered by an immunological reaction to infection with group A streptococcus. ARF is an illness in which the heart, joints, brain and skin are affected. Following ARF the valves in the heart can have permanent scarring and incompetence, and this is RHD. The mitral and aortic valves are most commonly affected. Individuals with a history of ARF are at high risk of subsequent episodes of ARF. Recurrent ARF worsens cardiac valve damage and RHD, therefore the focus of management of patients with the disease is preventing recurrent ARF.

In Australia, ARF predominantly affects young people in rural and remote Indigenous communities in northern and central Australia. In these settings, the incidence of ARF has been estimated at 150 to 380 per 100,000 in 5 to 14 year olds, with up to 2% of people of all ages having RHD.[2] Other high-risk groups in Australia include New Zealand Maoris, Pacific Islanders and immigrants from countries with high rates of ARF and RHD.[3] The rates seen in Australian rural and remote Indigenous communities are some of the highest reported worldwide, and recent studies suggest that ARF in Australia is more common in urban areas than previously thought (see Figure 1).[4,5]

Prevention of ARF and RHD can be implemented at a number of stages along the disease spectrum and co-ordinated ARF/RHD control programs play a key role in helping to reduce the morbidity and mortality from these preventable conditions. Primordial

prevention includes changes to the environment, particularly reduction in household crowding, with the aim of preventing the acquisition of group A streptococcal infection in individuals. Primary prevention is the treatment of group A streptococcal infections of the throat with antibiotics to prevent the autoimmune response that is ARF. Secondary prevention measures are used in individuals with a history of ARF and those with established RHD. This involves the administration of regular antibiotics, most commonly as four-weekly doses of intramuscular benzathine penicillin G injections, to prevent ARF recurrences and worsening of RHD. Tertiary intervention comprises medical and surgical management of the diseased heart in patients with established RHD to reduce symptoms and disability, as well as prevent premature death.

Australia's Rheumatic Fever Strategy

In 2009 the Australian Government developed the Rheumatic Fever Strategy that currently provides funding for the National Co-ordination Unit – RHDAustralia – and for ARF/RHD jurisdictional control programs in Western Australia, the Northern Territory, Queensland and South Australia.

Jurisdictional control programs

Jurisdictional control programs are the key support for primary healthcare providers. The role of jurisdictional control programs is to implement and maintain local disease registers and recall systems, improve clinical care including delivery of and adherence to secondary prophylaxis, provide education to local healthcare providers, individuals, families and the community, and collect data for national monitoring and reporting.

Central to programs are the disease registers that provide a mechanism for monitoring patient movements, orientating staff to ongoing care requirements and identifying individuals with poor adherence to long-term secondary prevention. The data also guides program priorities and helps to evaluate and describe epidemiological patterns.

ARF is a jurisdictionally-notifiable condition in the Northern Territory, Queensland and Western Australia. Contact details for jurisdictional programs and information about registers, events and local resources are available via the RHDAustralia website (www.rhdaustralia.org.au/rhd-programs).

RHDAustralia

RHDAustralia is hosted by Menzies School of Health Research in the Northern Territory, and also includes partnerships with the Telethon Kids Institute (Western Australia), South Australian Health and Medical Research Institute (South Australia) and BakerIDI Heart and Diabetes Institute (Victoria and Northern Territory). The unit's role is to support the jurisdictional control programs by providing technical assistance and promoting best practice, establishing a national data collection and reporting system, developing and disseminating evidence-based best practice guidelines and increasing health workforce and community awareness of ARF/RHD and its prevention.

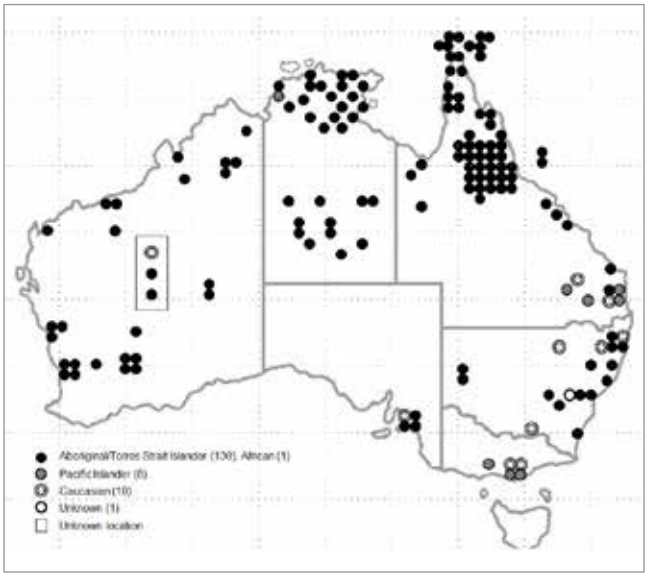

Figure 1. Geographic distribution of confirmed ARF cases by ethnic group, from October 2007 to December 2010.[*,5]

* Location could not be determined for three cases reported from WA.

National data collection and reporting system

RHDAustralia is developing a central repository for the collection and reporting of ARF and RHD against a recommended clinical dataset and in line with national key performance indicators. This data collection system will provide the mechanisms and infrastructure to enable consistent data collection across the jurisdictions. It will provide mandatory reports to the Federal Government as well as analytical reports to support the control programs with their performance monitoring measures. The data collection system will be fully implemented by early 2015.

Evidence-based best practice guidelines

The second edition of the Australian guidelines for prevention, diagnosis and management of ARF and RHD was published in 2012.[3] These guidelines are available online, in hardcopy or via a smart device app (iPhone, iPad and Android; see Figure 2). Further information can be found on the RHDAustralia website (www.rhdaustralia.org.au).

Professional development

In August 2014, RHDAustralia launched 15 new self-paced e-learning modules for clinicians. This advanced education package provides clinicians and senior health staff with a suite of online e-learning modules, designed by clinicians for clinicians to improve the prevention, control and management of ARF and RHD. The clinician modules provide detailed information on a range of topics, including ARF and RHD prevention, ARF diagnosis in children and adults, principles of RHD diagnosis, medical management including dental care, stroke and anticoagulation, indications for surgical referral, and management of RHD in pregnancy.

Figure 2. Australian guidelines for prevention, diagnosis and management of ARF and RHD is available through a smart device app.

The modules are designed to be a self-paced, interactive learning tool. Each module takes approximately 30 to 45 minutes to complete. Users can complete all or only those modules needed to meet their learning requirements. The package has been endorsed by the Australian College of Rural and Remote Medicine (ACRRM) and the Australian College of Nursing (ACN). On completion of each module a certificate is available for continuous professional development (CPD) points. Each clinician module is worth one core point with ACRRM and one CPD hour with the ACN. Modules are accessible via the RHDAustralia website (www.rhdaustralia.org.au).

Keep in touch via Murmur and Twitter

To keep in touch with the latest ARF/RHD news, readers can subscribe to 'Murmur' – the RHDAustralia quarterly newsletter via the website and on Twitter @RHDAustralia. **CT**

References

1. Carapetis JR, Steer AC, Mulholland EK, Weber M. The global burden of group A streptococcal diseases. Lancet Infect Dis 2005; 5: 685-694.
2. Parnaby MG, Carapetis JR. Rheumatic fever in indigenous Australian children. J Paediatr Child Health 2010; 46: 527-533.
3. RHDAustralia (ARF/RHD writing group), National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand. Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease 2nd ed. Darwin: Menzies School of Health Research; 2012.
4. Smith MT, Lester-Smith D, Zurynski K, Noonan S, Carapetis JR, Elliot EJ. Persistence of acute rheumatic fever in a tertiary children's hospital. J Paediatr Child Health 2011; 47: 198-203.
5. Noonan S, Zurynski YA, Currie BJ, et al. A national prospective surveillance study of acute rheumatic fever in Australian children. Pediatr Infect Dis J 2013; 32: e26-e32.

COMPETING INTERESTS: None.