AMOSS
Australasian Maternity Outcomes Surveillance System

Rheumatic heart disease *in pregnancy*

What is it?

Rheumatic heart disease (RHD) is chronic damage to the heart valves caused by acute rheumatic fever (ARF), a Group A streptococcus bacterial infection of the throat or skin, which occurs most commonly in 5-14 year olds.

Who gets RHD?

Risk factors include poverty, overcrowded housing and reduced access to medical care. Aboriginal and Torres Strait Islander women are at much higher risk of having RHD in Australia. There is also a significantly higher prevalence among Maori and Pacific Islander women andmigrant women from resource-poor countries (including refugees)[1]. The Northern Territory has about a third of all cases of women with RHD in Australia – yet its population is only one percent of the country. For the other two thirds of women with RHD, they are more likely to live in regional/remote Australia, particularly Western Australia and Queensland – but …

"We don't have RHD here!"

… one of the barriers to optimal care can be a lack of recognition of the disease, particularly in regions of lower prevalence such as NSW. Each year there are women diagnosed with RHD because they developed difficulties during pregnancy or early postpartum, when an earlier diagnosis would have prevented complications. Conversely, the antenatal booking visit provides an opportune point of care to flag a history of rheumatic fever, and follow-up with assessment and review.

Why does it matter so much in pregnancy?

There is a 30-50% increased cardiac workload in pregnancy. When a woman has rheumatic heart disease this can impact in a couple of ways.

- She may not have been diagnosed before pregnancy. The added stress on the heart can result in symptomatic RHD where previously there were no symptoms. The earlier the diagnosis and treatment, the less likelihood she will have complications.
- She may already have been diagnosed with RHD, but pregnancy can exacerbate her disease. If she's receiving anticoagulation therapy during pregnancy, this requires careful assessment[2].

Regular monitoring and multidisciplinary care during pregnancy helps avoid / minimise complications

A 21 year old Aboriginal woman from a regional centre presented to Emergency Department with severe breathlessness and palpitations at 33 weeks' pregnant. She had a history of rheumatic fever as a child with regular injections, but had not received these recently. She was diagnosed with mitral stenosis due to rheumatic heart disease, transferred via Royal Flying Doctor Service to a tertiary hospital, admitted to intensive care and commenced on digoxin, metoprolol and frusemide. She had a vaginal birth whilst in ICU to a premature baby, and is being reviewed for a mitral valve replacement with subsequent lifelong anticoagulation requirements.

How does RHD get diagnosed?

Definitive diagnosis is by echocardiogram, a non-invasive ultrasound[3].

RHD in pregnant women – it affects everyone

Where women are the main care-givers in a family, any illness will affect the whole family and community. Women with RHD often have poorer outcomes for their babies. Sometimes that's because the damage to the heart valves. It can also be because of anticoagulation medication that may be required if the woman has had a valve replacement or atrial fibrillation. Pregnancy provides an opportunity to help break the cycle: to provide education about rheumatic fever and RHD to build awareness of prevention and importance of treatment for mother and children.

Secondary prophylaxis treatment during pregnancy – is it safe?

An important message is that any prescribed antibiotic secondary prophylaxis (usually LA bicillin injections every 3-4 weeks) is fine to have during pregnancy, and in fact it's really important the woman doesn't miss any injections to avoid a recurrence of rheumatic fever and worsening of the RHD.

A 27 year old Maori woman who migrated to NSW from NZ a year ago received an echocardiogram and cardiac review at 13 weeks' gestation, after her antenatal booking visit picked up a history of rheumatic fever. She had received regular bicillin injections (secondary prophylaxis) whilst in NZ, but only two of the prescribed 13 injections since she arrived in Australia. She re-commenced the bicillin schedule, and had further reviews and another echo at 37 weeks' gestation which showed that her moderate mitral regurgitation had not worsened in pregnancy. She gave birth without complications to a healthy baby boy at 39 weeks.

Rheumatic heart disease is up to twice as common in women

This can vary according to age and region, but RHD is - often much - more commonly diagnosed in women[4].

Pregnancy and child birth should be a joyous time – but the burden of RHD can make it seem dangerous and scary

While there can be – often significant – illness in pregnancy and after birth – this underlines why it's so important to have multidisciplinary care, monitoring and support during pregnancy, which can avoid many problems happening in the first place, help optimise good outcomes for mother and baby, and support the woman to feel safe in pregnancy.

TAKE HOME MESSAGES

- High risk populations include Aboriginal and/or Torres Strait Islander women and Maori and Pacific Islander women, refugees and women from resource poor countries
- Ask all women under your care if they are Aboriginal and/or Torres Strait Islander*
- It can have added impact during pregnancy, when there is 30-50% increased cardiac workload
- Pregnancy provides an ideal point of care for diagnosis and monitoring
- During the antenatal booking visit, check history:
  - Has the woman (or her family) had rheumatic fever (RF) as a child (sore throat/joints, skin infections)
  - Has she ever had regular antibiotic injections over a period of time for her heart (she would remember - these hurt!)
  - Has she ever had a scan/ultrasound (echocardiogram) or heart surgery
- "Yes" to any of the above questions? Clarify the woman's history in collaboration with other services that provide care (maternity services, Aboriginal medical services, refugee health services)
- Is the woman prescribed antibiotic 'secondary prophylaxis' (usually 3-4 weekly Bicillin injections)? This is safe and should continue during pregnancy.
- Women requiring anticoagulation during pregnancy are at additional risk of complications.
- If you're in NT, WA, Qld or SA: is the woman registered with the RHDControl Register (see http://www.rhdaustralia.org.au/rhd-programs) – they have a range of excellent resources, including the Australian guideline[1].
- Early diagnosis and multidisciplinary care are vital to optimise good outcomes for mother and baby.
- Has conception counselling been discussed as part of the woman's care?

***Asking about Indigenous identification**

Just ask!... respectfully. Ask every woman: irrespective of appearance, country of birth and whether or not you know the woman's background. (see '*Asking about Indigenous identification – why does it matter?*' [5]

1. RHDAustralia (ARF/RHD writing group); National Heart Foundation (NHF) of Australia; Cardiac Society of Australia and New Zealand (CSANZ). Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (2nd edition)2012.
2. McLintock C. Anticoagulant therapy in pregnant women with mechanical prosthetic heart valves: no easy option. Thrombosis Research. 2011;127(S3):S56-S60.
3. Reményi B, et al. . Concise summary of the World Heart Federation criteria for echocardiographic diagnosis of rheumatic heart disease - Supplementary Information. Nat Rev Cardiol. 2012 May 2012;9:297–309.
4. Lawrence JG, Carapetis JR, Griffiths K, Edwards K, Condon JR. Acute Rheumatic Fever and Rheumatic Heart Disease: Incidence and Progression in the Northern Territory of Australia, 1997 to 2010. [Article]. Circulation. 2013;128(0009-7322):492-501.
5. Jackson Pulver L. Asking about Indigenous identification – why does it matter? Sydney NSW: AMOSS; 2011 [updated June 2011#10]; 4]. Available from: http://www.amoss.com.au/newsletters/AMOSS_Newsletter_10_Jun11.pdf.

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