



Right-sided Aorta and Vascular Rings

Whānau/Family Information – Neonatal Services & Fetal Medicine Unit

The pregnancy scan at around 19 weeks checks that the heart has formed normally. Occasionally (in less than 1%) a right-sided aorta or vascular ring is found.

What is an aorta?

The aorta is the main artery that takes blood from the heart to the body. A normal aorta runs up from the heart and curves to the left side of the body and in front of the oesophagus (feeding pipe) and the trachea (breathing pipe). A number of smaller arteries branch off the aorta to supply blood to the upper part of the body.

What is a right-sided aorta?

When an aorta is described as being right-sided, it still runs from the heart upwards and curves to the left side of the body, but it passes behind the oesophagus (feeding pipe) and the trachea (breathing pipe). Sometimes this can mean that the aorta and some of the smaller artery branches can form a ring of blood vessels around the food and breathing pipes, known as a vascular (blood vessel) ring.

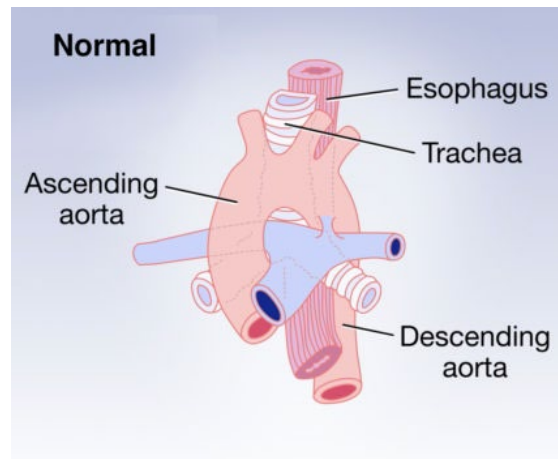
What does this mean?

Occasionally there can be some other associated developmental problems with a right-sided aortic arch. This could involve an additional cardiac abnormality, or sometimes a chromosome deletion called 22q11.2 deletion syndrome. Therefore, when a right-sided aortic arch is detected, the full cardiac anatomy is examined in detail, and the thymus gland is identified (this sits in the upper part of the chest directly behind the sternum in front of the lungs). If the heart anatomy is otherwise normal and the thymus gland is present, then we would expect your pēpi/baby not to have the 22q11.2 deletion syndrome. However, as we cannot be 100% sure that the 22q11.2 deletion is not present, we do offer the option of testing for chromosome analysis. We do this by an amniocentesis procedure. Amniocentesis does carry a small risk of miscarriage of up to 0.5% so it is very much up to you if you wish for testing with an isolated right-sided aortic arch in your unborn pēpi. The team looking after you will provide more information to help you make this decision.

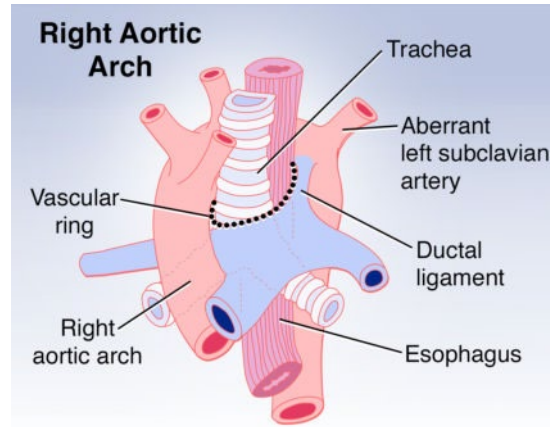
We wish to emphasise that in most cases the finding of a right-sided aorta just means that the plumbing of the heart vessels is a little different and there are no symptoms or ongoing concerns.

In a very few cases the different position of the blood vessels forms a vascular ring which can cause pressure on the feeding or breathing pipes.

After your pēpi is born they will be examined as part of the newborn check at 24 hours of age. If there are any symptoms further investigations will be arranged. If your pēpi is well, then we will discuss with



A normal aorta running upwards from the heart and *in front* of the oesophagus and trachea



Aorta running upwards from the heart and curving *behind* the oesophagus and trachea

you the symptoms that may indicate a problematic vascular ring so that you can be aware of these in the future.

Symptoms of a vascular ring

The symptoms of a vascular ring are not specific to the vascular ring and can be seen with a lot of the common childhood illnesses. However, if these symptoms keep coming back then you need to tell/remind your doctor that your child has a right-sided aortic arch. Most children who are going to present with symptoms from a vascular ring do so before one year of age.

Symptoms that the *breathing pipe* may be affected:

- Noisy breathing
- Wheezing
- Cough
- Recurrent chest infections

Symptoms that the *feeding pipe* may be affected:

- Difficulty swallowing food
- Food getting stuck
- Choking
- Regurgitating or vomiting food
- When eating the breathing symptoms get worse

What will happen if the doctor suspects a vascular ring is causing problems?

Your doctor will refer your pēpi to the Paediatric Department at your local hospital. If the Paediatricians also feel that your pēpi has a vascular ring, then further investigations will be arranged to reach a diagnosis. If a vascular ring is found that is causing pressure on the feeding or breathing pipes, then your pēpi will need to undergo surgery at Starship Hospital in Auckland to release the pressure. It is extremely rare, however, that a pēpi needs to have surgery for this condition.

For more information or support

Talk to your GP

Visit www.heartnz.org.nz

