

**LARA WINE LEE:** Vascular anomalies come in a variety of forms. Most of them are things that children are born with, although some can occur over the child's lifetime.

We have a few different types. The most common is something called an infantile hemangioma, which is a vascular tumor that grows during infancy. And eventually does go away partially, but can oftentimes lead to serious side effects in terms of cosmetic look, or even have functional consequences like blocking vision. And we also have vascular malformations. Examples of those would be lymphatic malformations and venous malformations. Which, again, are lesions that the child may be born with, effecting part of their face, or a limb that does tend to grow over time.

The common part for both the vascular anomalies is that they are benign lesions that are made of blood vessels. And usually, it's just that we have too many blood vessels in an area, or blood vessels are too large, or not acting correctly. And that's what leads to the problems over time.

Kids who have vascular anomalies-- for instance on the face-- can have difficulties with vision, with progressive blocking of their vision, can have problems with feeding, or speaking when the mouth is involved. We also have vascular anomalies such as venous malformations on the legs, or on the feet that over time can prevent normal ambulation. They can effect the growth of the limb. There are some vascular anomalies that might be associated with other medical conditions, as well as part of some genetic syndromes. So we oftentimes have to place what we're seeing with the vascular anomaly to really decide what are the important consequences for the child, and what part of their health do we really need to look at?

Treatment for vascular anomalies comes in a variety of forms. So in the immediate sense, or in the more acute sense, oftentimes because we have an important function that is threatened. So if we have, for instance, an infantile hemangioma of the eyelid that is growing, the eye could be progressively blocked and then effect the vision over time.

Later on, some of our vascular anomalies, we would have to treat them because they cause symptoms of pain. They are having progressive problems with bleeding. So bleeding over time, that we have to then treat as well to prevent things like anemia and other health

consequences like that, but usually it is aimed at a medical goal of providing some relief of a symptom or a function. There is a very, very high cosmetic burden, as well of vascular anomalies. And so the other arm of our treatment is really to restore-- in addition to the normal function-- to restore a normal appearance for the child, as well.

Surgery can be indicated when we-- in the younger kids, can be very early on if we have an important vital function that's affected. So for instance, a large lymphatic malformation that were to involve the airway would need to be treated to allow the function of breathing.

Sometimes the vascular anomaly can wait to be treated, because we don't have a vital function that's affected. And we do like the kids to grow. We like them to have an opportunity to start to do some development, or at least get to a stage that healing can be improved.

And at some point we go from really focusing on the functional aspect to also thinking about the cosmetic impact. And particularly young kids that are starting to be around peers more, or are going to school and are having problems with self-esteem, or with even bullying, really working on the cosmetic impact of the vascular anomalies can be important, as well.

However, not all kids require surgery. And we do have some medical options, so often young infants, for instance with an infantile hemangioma we can treat with some medical options that may actually prevent the need for surgery later on. However, we really need to do that early, because we have to get it before it has caused a problem.

Here at MUSC, we have vascular anomalies program, which is made of pediatric sub-specialists across many departments and many of our adult colleagues as well. With people with expertise both in medical management of vascular anomalies, which is often done in conjunction and as a lead up to surgery. We have excellent interventional radiologists who will then work with our EMT surgeons, our plastic surgeons, and our pediatric surgeons to decide if an interventional procedure-- a sclerotherapy procedure-- may help make the surgery more successful, as well.

The expertise we have here at MUSC for vascular anomalies really should be an early resource if you have a patient that might require treatment, or even just counseling. So early on, particularly if you have a baby that's born with a vascular anomaly, it's a very stressful

thing for a family. And you do want to get them to somebody early here at MUSC, or another regional center, to really have them understand what is the anomaly, let's categorize the anomaly, make sure there's nothing else for the baby's health that's important, and really very early on start to formulate a treatment plan that then we're going to carry out throughout the child's life.