Head and neck lesions in children are primarily benign. Congenital lesions arise from how these structures develop - some are overgrowth of normal tissues, while others are leftovers that do not disappear. Most grow at the same pace as the rest of the body, but some grow faster and can cause concern for a tumor. Below is a list of some of the most commonly encountered congenital head and neck lesions:

**Thyroglossal Duct Cysts:**

These are leftover tissues from the development of the thyroid gland. The thyroid gland begins in the back of the tongue, and descends to the lower neck in front of the windpipe before birth. If pieces of developing thyroid gland are left along this path, thyroglossal duct cysts develop, leading to a midline neck mass that moves with swallowing.

While thyroglossal duct cysts are not usually dangerous, they are susceptible to infection, which leads to a red, painful, enlarged mass in the neck. They can also progressively enlarge, causing an obvious knot under the chin. While treatment with antibiotics is often successful in calming the infection, definitive treatment requires removal of the entire thyroglossal remnant, from the front of the cyst immediately under the skin to the back of the tongue where it started. Failure to remove all of it will invariably lead to its return.

**Branchial Cleft Anomalies (cyst, sinus, fistula):**

Branchial cleft anomalies are leftovers of neck development, and course through the neck either between or behind vessels, nerves, and muscles, usually connecting the throat to the skin in the front of the neck. They may appear as a mass on the side of the neck, or appear as draining openings in the front of the neck. Left alone, these will remain throughout life, and are susceptible to infection.

While antibiotics are helpful for infection, the only way to prevent continued symptoms is to surgically remove these lesions. A thorough knowledge of the winding path these “tunnels” in the neck take is essential in removing them. The entire remnant must be removed or controlled to ensure it does not return. Certain forms of branchial cleft remnants can be treated through endoscopic (through the mouth) procedures to “seal off” the opening in the throat providing the path for the bacteria to infect the cyst.

**Lymphatic malformations:**

The lymphatic system is a collection of small tubes in the tissues that pull the extra water from the spaces between cells in the body. Without this system, our tissues would swell significantly due to extra water. Errors in how this network develops lead to cysts (water balloons) in the muscle and soft tissues of the body. The head and neck is the most common location for these to occur. There are two types of cysts macrocystic (big cysts) and microcysts (small cysts). These lesions may appear at birth, or show up later after an infection.

Treatment options for this type of congenital lesion include observation with antibiotics as needed for swelling, surgical excision, and injection of the cysts with compounds that cause scarring of the cyst walls, obliterating them. Macrocystic malformations are often treated with injection techniques, while microcystic forms require surgery for treatment.

**Vascular Malformations:**

Congenital vascular malformations include hemangioma, venous malformations, and arterial malformations. These lesions are often treated in conjunction with the pediatric hematologists and plastic surgeons, as some can be very extensive.

Hemangiomas are lesions characterized by rapid growth in the first year of life, followed by spontaneous resolution. Although it may take years, approximately 50% do so by age 5 years, and approximately 70% by age 7 years. Hemangiomas
that do not fully resolve are treated by either surgically removal or laser therapy to shrink it away. Hemangiomas that require early treatment are any lesions that significantly involve the eye, nose, or throat regions. Hemangiomas can also involve the airway, causing breathing difficulty. Hemangiomas may be treated with medical therapy, including steroids, as well as surgery/laser therapy, depending on size and location of the lesion(s).

Venous and arterial malformations typically grow with a child, causing symptoms later than hemangiomas. Medical therapy is often ineffective, requiring surgery and/or laser therapy to treat them.

Dermoid:

Dermoids are benign cysts that arise from tissues similar to the deeper layers of the skin (dermis/epidermis). Thought to arise along fusion planes (places where two tissues fuse together to form something), it commonly appears in the face and neck. Complete removal is curative.

Thyroid lesions:

The thyroid gland begins in the back of the tongue, and descends to the lower neck in front of the windpipe before birth. In addition to thyroglossal duct cysts (see above), the thyroid may develop other problems, leading to treatment and/or removal. Examples include being ectopic (in the wrong place - an example is a lingual thyroid, which occurs when the thyroid gland stays in the back of the tongue, creating a mass causing speech & swallowing concerns), hypertrophic (a goiter), or stuck in overdrive (Grave’s disease). Thyroid lesions may appear as a anterior midline neck mass, and may or may not be associated with abnormally high or low thyroid levels.

Thymus lesions:

The thymus is a gland located in the anterior base of the neck, and is involved in the maturation of the immune system. The thymus descends from the upper neck before birth. Failure to do so may lead to a neck mass. Cysts may develop from this tissue, also presenting as a mass in the neck. Surgical removal is usually all that is required to treat thymic masses.

Teratomas:

Teratomas are complex lesions that rarely appear in the head and neck (3%). When they are located in the head and/or neck, they often appear at birth and cause significant airway impairment. Tracheotomy is frequently required to secure the airway. Surgical removal is recommended when the child in question is stable enough to tolerate its removal.

Laryngoceles/Saccular Cysts:

These two lesions arise within the voicebox, but may become big enough to appear as a neck mass. Laryngoceles are air filled balloon within the side wall of the upper voicebox, while saccular cysts are typically fluid filled. While certain asymptomatic lesions may be observed, most are surgically treated to prevent progression/worsening symptoms.

Appointment hours 8:30am to 4:30pm
Call 404.255.2033 to schedule an appointment
For questions or more information about this topic please contact us at 404.255.2033