Title: Polycystic Mixed Neck Lymphangioma in a 15-Month-Old Female

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Introduction: Cystic lymphangioma is a relatively rare type of benign tumor that typically affects children. These tumors arise from the lymphatic vessels and can present with a painless mass, with neck being the most common site of occurrence. Although cystic neck lymphangiomas are typically asymptomatic, they can grow large enough to cause airway obstruction or difficulty swallowing. Treatment of cystic neck lymphangiomas typically involves surgical resection, sclerotherapy or Sirolimus.

Case description: This case report describes a 15-month-old female, who was diagnosed prenatally with a neck mass at the 30th week of gestation. The patient was conceived via Intracytoplasmic Sperm Injection and was born as an AGA newborn from a dizygotic pregnancy via cesarean section in the 37+1 gestation week.

After birth, physical examination and imaging revealed a soft, compressible, fluid-filled polycystic mass on the left side of the neck measuring 6.9 x 5.4 x 5.4 cm with the largest single cyst measuring 4.1 x 3.3 x 2.4 cm. The mass showed retro- and parapharyngeal extension without displacement of the larynx, esophagus, or trachea. Impaired aeration of the dorsal lung segments was also noted, but there were no intrathoracic abnormalities or other vascular malformations. The rest of the physical and neurological examination, as well as the blood results were unremarkable and there was no restriction of breathing or food intake.

The patient underwent two rounds of sclerotherapy with Picibanil (OK-342) at 7 weeks and 8 months of age. The treatment involved injecting two and three macrocysts respectively, resulting in a slight reduction in the size of the mass and changing the character of the mass to mostly microcystic. Histological examination confirmed the non-malignant character of the lesion.

In March 2023, the patient presented to our clinic with bronchiolitis and a reactively enlarged and indurated lymphangioma, which was not causing any difficulties with the patient's breathing or food intake and is currently being conservatively observed.

Discussion: Treatment of lymphangiomas is challenging and depends on the size, character, location, and extent of the lesion. In this case, ultrasound-guided sclerotherapy was performed twice with Picibanil (OK-342).

A decision needs to be made regarding the next best line of treatment. Options include surgery and medical management with Sirolimus. Precision medicine has led to the development of therapies targeted to specific genetic mutations associated with lymphatic malformations, offering new options for treatment.

The patient is currently being conservatively observed, as the lymphangioma does not compromise airway or food intake. However, the progression of the mass is unpredictable.

The benefits and risks of each option should be discussed with the parents, and a multidisciplinary approach involving pediatric surgery, radiology, oncology, as well as other specializations is vital for the best management.