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Miscellaneous neck lesions encompass a wide spectrum of congenital and acquired pathologies with diverse clinical and imaging features. Accurate diagnosis requires a systematic approach based on embryologic origin and anatomic location.

Congenital lesions arise from developmental anomalies and are often classified based on embryologic origin and typical location. Branchial cleft anomalies are the most common congenital neck lesions, typically presenting along the anterior border of the sternocleidomastoid muscle with predictable courses and anatomical relationships. Dermoid and epidermoid cysts are inclusion cysts that usually appear as well-defined cystic masses, occasionally containing fat or keratinaceous material. Vascular anomalies, including hemangiomas and vascular malformations, demonstrate distinct imaging characteristics depending on flow dynamics, enhancement patterns, and internal architecture.

Acquired lesions encompass a broad spectrum of neoplastic, inflammatory, and vascular conditions. Neurogenic tumors, such as schwannomas and neurofibromas, commonly arise in the carotid space or posterior cervical space and are characterized by well-defined margins and specific displacement patterns of adjacent vascular structures. Paragangliomas are highly vascular tumors that typically occur at the carotid bifurcation or along the vagus nerve and demonstrate avid enhancement with characteristic imaging features. Fat-containing lesions, including lipomas, are generally benign and easily recognized by their imaging characteristics, whereas desmoid tumors present as infiltrative soft tissue masses with variable signal intensity and enhancement patterns.

Infectious and vascular conditions also play an important role in the differential diagnosis. Deep neck infections, including necrotizing fasciitis, may show diffuse soft tissue infiltration, fascial thickening, and potential gas formation, requiring prompt diagnosis and intervention. Vascular lesions such as thrombophlebitis of the internal jugular vein present with intraluminal thrombus and surrounding inflammatory changes, which can be readily identified on cross-sectional imaging.

Imaging modalities particularly ultrasonography, computed tomography, and magnetic resonance imaging, are critical for lesion characterization. Key diagnostic clues include lesion location, internal composition (cystic versus solid), signal intensity, enhancement pattern, and relationship to adjacent structures. Integration of these imaging features with clinical context significantly improves diagnostic accuracy and narrows the differential diagnosis.