Case Report

Thyroglossal duct cyst: Common and uncommon presentations

Kushagra, Manish Kumar, Swish Kumar Singh, Himani Sharma, Lalit Kumar

Department of Radiodiagnosis, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India

Corresponding Author:
Dr. Manish Kumar, Department of Radiodiagnosis, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India.
E-mail: manish2k4@gmail.com

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Thyroglossal duct cysts are the most common cystic midline lesion in children and young adults. The location of the lesion and its cystic appearance easily lead to the diagnosis on ultrasonography in most of the cases. Uncommon presentations include infection, hemorrhage or neoplastic change. In cases presenting with uncommon features, cross sectional imaging modalities like CECT / CEMRI are needed for diagnosis.

KEY WORDS: CECT, cyst, midline, Thyroglossal duct, ultrasound

INTRODUCTION

The most common type of congenital cystic mass of the neck is thyroglossal duct cyst (TGDC). They are typically located in the midline and are the most common midline neck mass in young aged patients.[1] The cysts can appear anywhere along the course of the thyroglossal duct from the foramen cecum to the thyroid gland, most commonly located in the midline. Infrahyoid location of the cyst is most common.[2] In some cases, it was also reported at the level of hyoid bone and suprahyoid region. We report two cases of TGDC, one highlighting the typical features and another manifesting as a rare presentation.[2]

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CASE REPORT

Case 1

A 12-year-old boy was referred with a fluctuant left-sided neck swelling which was painless and moves on swallowing. The swelling was partly compressible on probe palpation.

On ultrasonography, a well-defined cystic lesion with posterior acoustic enhancement is seen on the left side of the neck just lateral to the midline above the thyroid gland. No vascularity was seen in the lesion on color Doppler. No calcification or septae were seen [Figure 1].

Contrast-enhanced computed tomography (CECT) scan of the neck shows a well-defined thin-walled cystic lesion which is seen on the left of the midline [Figure 2].

Ultrasonography-guided fine-needle aspiration was done and sent for histopathology [Figure 3]. On FNAC, it was diagnosed at TGDC.

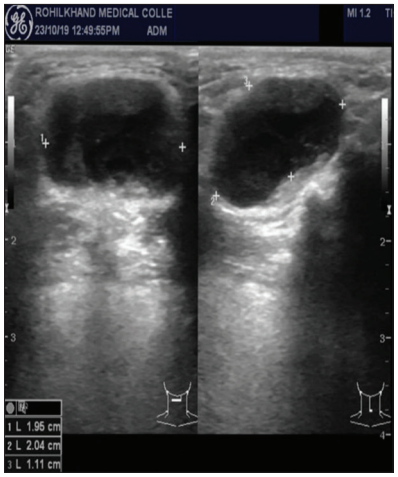

Figure 1: High-resolution ultrasonography revealing a well-defined, thin-walled cystic lesion located slightly off-midline toward the left side

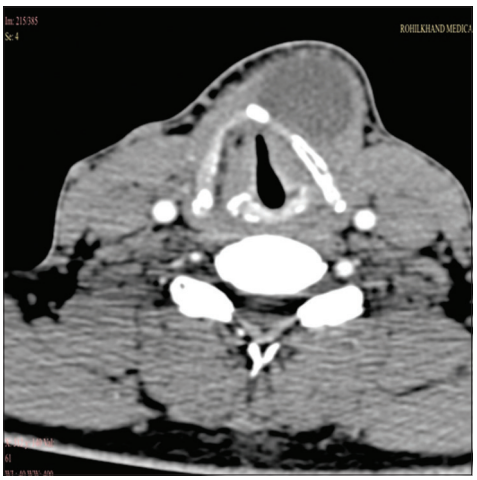

Figure 2: Contrast-enhanced computed tomography axial section of the neck reveals well-defined, thin-walled cystic lesion located slightly off-midline toward the left side

Figure 3: Ultrasonography-guided fine-needle aspiration was performed, shows linear echogenic needle inside the cystic lesion

Case 2

A 23-year-old patient was referred with a neck swelling which was painless and moved on swallowing. The swelling was partly compressible on probe palpation.

On ultrasonography, a well-defined cystic lesion with posterior enhancement was seen both on the left and right sides of the neck lateral to the midline above the thyroid gland, within the strap muscles. Ill-defined heterogeneous soft-tissue component was seen in the midline between the locules of the cystic lesion. Focal calcification was seen in the soft-tissue component [Figures 4 and 5].

On CECT neck axial and coronal sections, a well-defined bilocular thin-walled cystic lesion was seen extending on both sides of midline. The lesion was located within the strap

Figure 4: High-resolution ultrasonography reveals well-defined cystic lesion with posterior enhancement with internal echoes extending on both sides of the neck above the thyroid gland, within the strap muscles

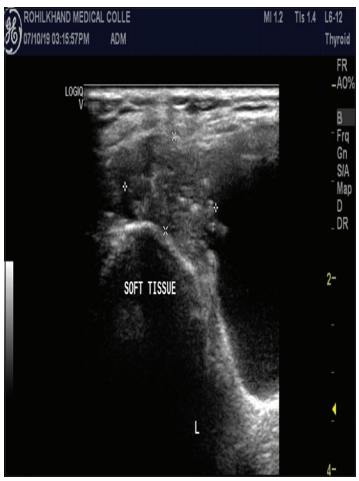

Figure 5: High-resolution ultrasonography reveals ill-defined heterogeneous soft-tissue component in the midline between the locules of the cystic lesion. Focal calcification was seen in the soft-tissue component

muscles. Enhancing soft-tissue component was seen showing calcifications. Few enlarging enhancing neck nodes were also seen.

The excisional biopsy of the lesion was done due to the soft-tissue component. Papillary carcinoma was diagnosed histopathologically [Figures 6-8].

DISCUSSION

The most common congenital cystic neck mass lesion is the TGDC. The cyst can develop anywhere from the foramen cecum to the thyroid gland. Cysts which are located near the foramen cecum are lined by stratified squamous epithelium, whereas cysts located near the thyroid gland are lined by thyroidal acinar epithelium.[3] Usually, the cysts do not contain either soft-tissue component or calcification. The presence of soft-tissue component or calcification is regarded with suspicion for the development of neoplasia.[4] In this case report, we highlight a rare entity which is the development of papillary carcinoma in a long-standing case of TGDC.

The usual clinical presentation of TGDC is a painless midline neck mass that moves with deglutition. Complication includes presence of superimposed infection, cyst rupture, and hemorrhage into the cyst and the most dreaded complication is the development of malignancy which is mostly papillary carcinoma.

Differential diagnosis for TGDC includes dermoid cyst, branchial cleft cyst, lymphadenopathy, and a cystic nodule which arises from the thyroid gland.[5]

Ultrasonography neck with a high-frequency transducer is a sensitive as well as specific imaging modality. Based on their cystic appearance and location, they can be diagnosed with confidence on ultrasound. CT examination is done to explore its relation with the surrounding strap muscles and in cases of complex cystic lesions having atypical features such as calcification, soft-tissue component, and presence of neck nodes. MRI may be done in place of CT as it has better soft-tissue resolution. However, MRI is usually not needed. Histopathology revealed ciliated pseudostratified columnar epithelium in lower neck, due to its close proximity to upper respiratory tract.[4]

Treatment is excision of the cyst along with the entire tract (cyst trunk operation).

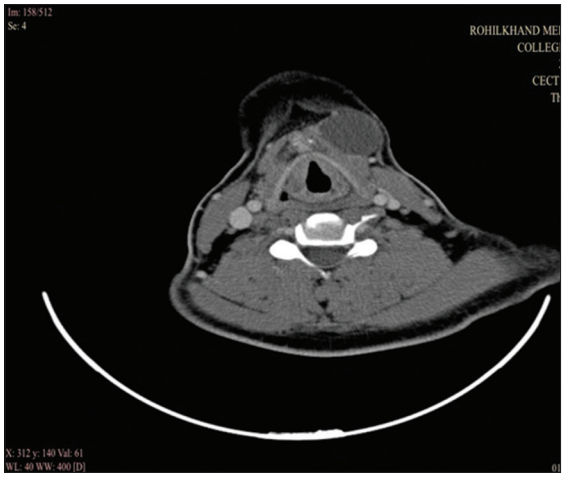

Figure 6: On contrast-enhanced computed tomography neck axial sections reveal well-defined bilocular thin-walled cystic lesion extending on both sides of midline. The lesion was located within the strap muscles. Enhancing soft-tissue component was seen showing calcifications between the two locules

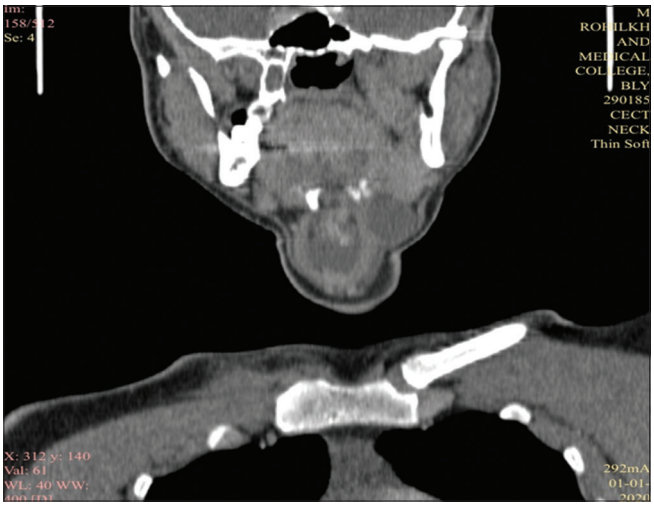

Figure 7: On contrast-enhanced computed tomography neck coronal sections reveal well-defined bilocular thin-walled cystic lesion extending on both sides of midline. Enhancing soft-tissue component was seen showing calcifications

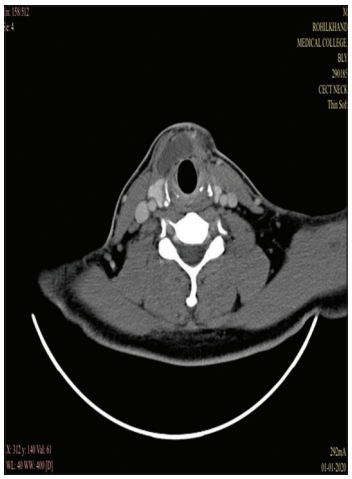

Figure 8: On contrast-enhanced computed tomography neck axial sections reveal well-defined bilocular thin-walled cystic lesion extending on both sides of midline. The right-sided extension of the cystic lesion was well identified

CONCLUSION

Ultrasound is a sensitive as well as specific imaging modality for confident diagnposis of thyroglossal duct cysts. CECT / CEMRI and histopathology are needed in cases presenting with uncommon features.

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