

CT and MRI of thyroglossal duct cyst.

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Authors: A. Lo Casto, G. Papia, P. Purpura, F. Di Naro, D. Aiello, G. La Tona, S. Salerno; Palermo/IT
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Aims and objectives

The thyroglossal duct is a narrow tubular structure connecting the primordium of the thyroid gland to the tongue in the midline. If the duct does not involute at 8-10th weeks of gestation, secretion for infection or inflammation causes a thyroglossal duct cyst (TDC). TDC accounts for 70% of all congenital neck anomalies. The aim of this paper is to describe MR and CT findings of TDC including 3d MR sequences and a rare branched thyroglossal duct cyst.

Methods and materials

7 patients (6 male, 1 female, age range 15-62 years) were diagnosed a TDC by CT and MRI.

Results

5/7 lesions were thyrohyoid, 1/7 was suprahyoid, 1/7 was lingual. 4/7 lesions were median-paramedian located on the right, 2/7 on the left, 1/7 on the midline in the preepiglottic. 1/7 lesion was a rare variant of branched thyro glossal duct cyst. On CT TDC had a liquid density content with a thin wall enhancing after contrast medium injection. On MRI the TDC content intensity was variable, generally intermediate or low on T1, and high on T2, but in 1/7 lesion the intensity was intermediate - high on T1 and high on T2 with intensity decrease in the peripheral part of the cyst, because of hemorrhage. The wall showed low intensity on T1 and T2, enhancing after gadolinium injection. 3D T1 and T2 sequences allow to depict the branching detour in 1/7 of the TDC showing the multiple components of the cyst.

Images for this section:

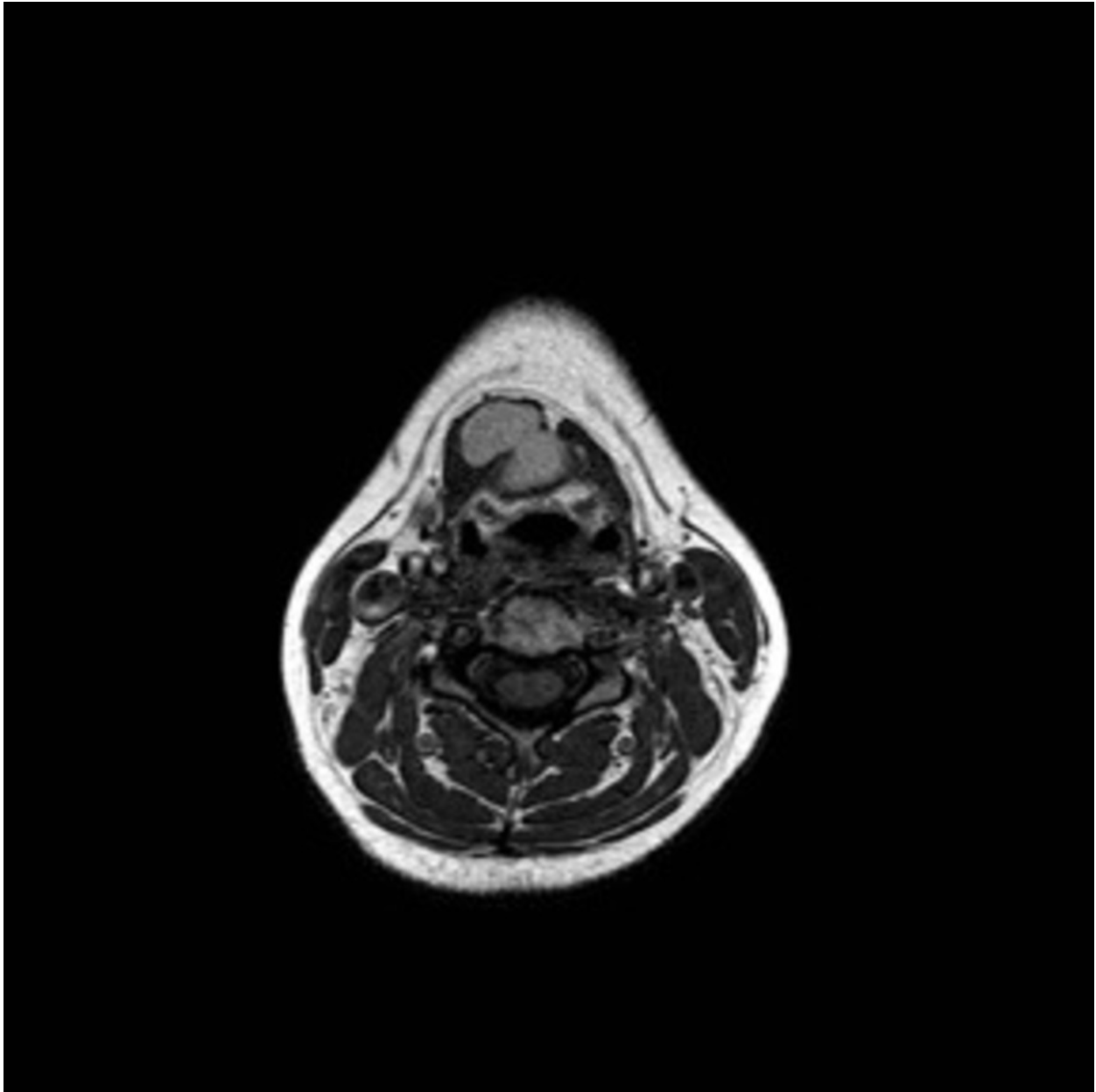


Fig. 1: Axial FSE T1 image. 35-year-old woman with a partial hemorrhagic content of a thyroglossal duct cyst. A hyperintense cyst is located within the strap muscles.

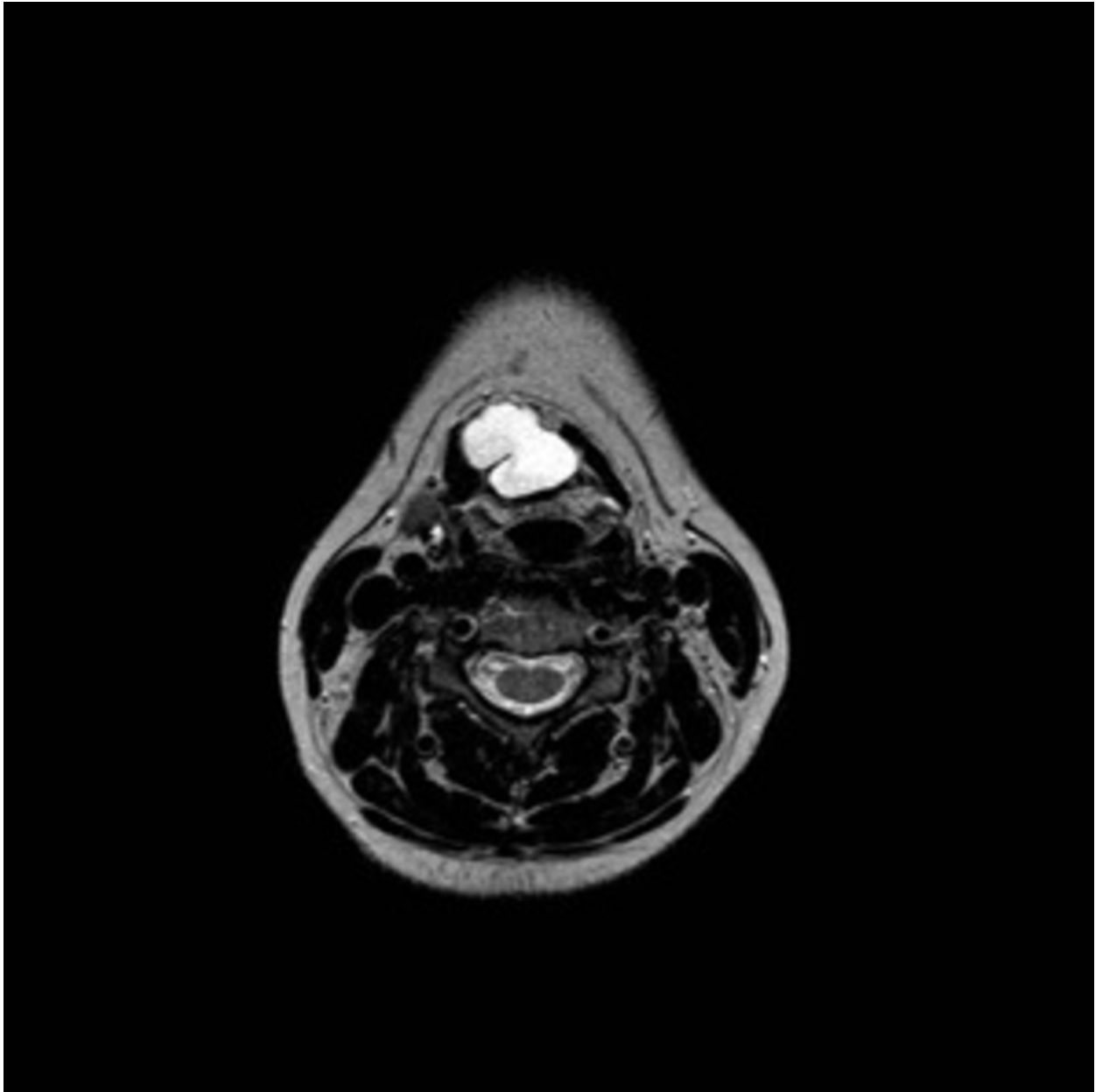


Fig. 2: Axial FSE T2 image. 35-year-old woman with a partial hemorrhagic content of a thyroglossal duct cyst. An intensity decrease is noted in the peripheral part of the cyst.



Fig. 3: Sagittal FSE T2 image. 35-year-old woman with a partial hemorrhagic content of a thyroglossal duct cyst. The cyst is located at a thyrohyoid level.



Fig. 4: Axial FSE T2 image. 27-year-old man with a thyroglossal duct cyst. A small hyperintense cyst is seen in the midline between the geniohyoid muscles.



Fig. 5: Sagittal FSE T2 image. 27-year-old man with a thyroglossal duct cyst. The cyst is located at a suprahyoid level.

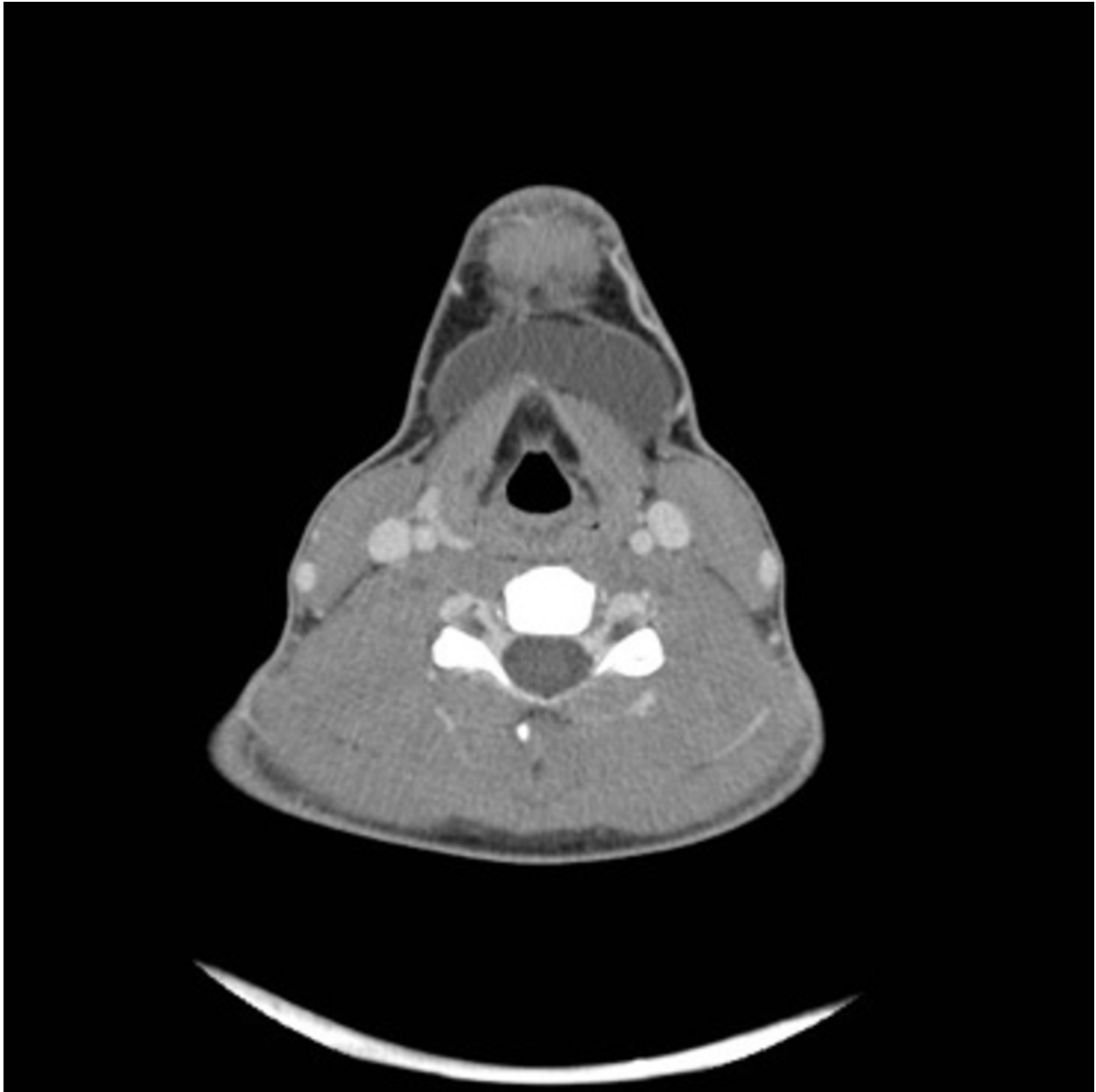


Fig. 6: 16-year-old boy with a thyroglossal duct cyst at the thyrohyoid level. Axial contrast-enhanced CT image. A well defined cystic lesion with liquid density content.

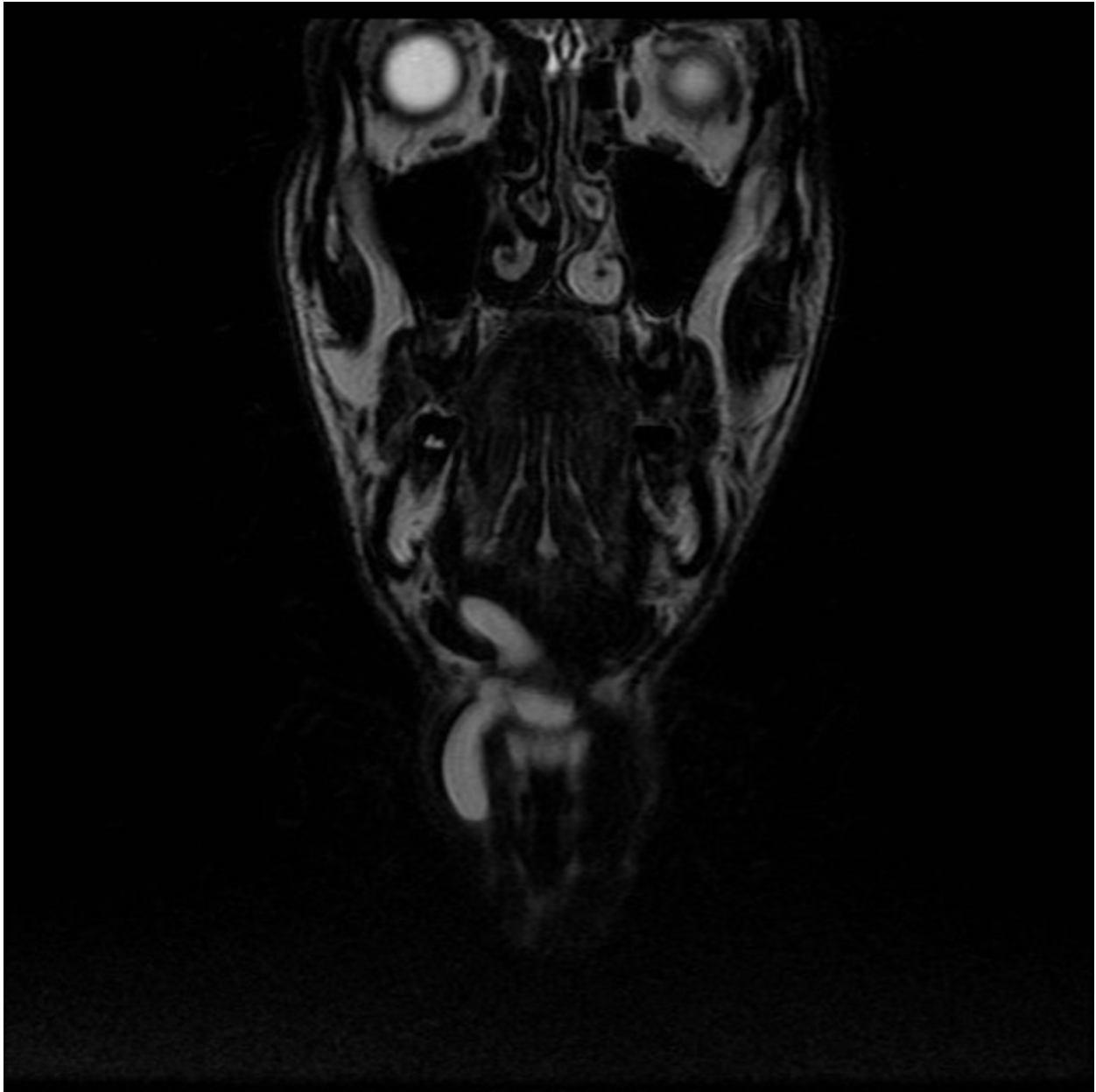


Fig. 7: Coronal FSE T2 images. 21-year-old man with a branched and polycystic thyroglossal duct cyst. A hyperintense and complex detour cyst at a thyrohyoid level.

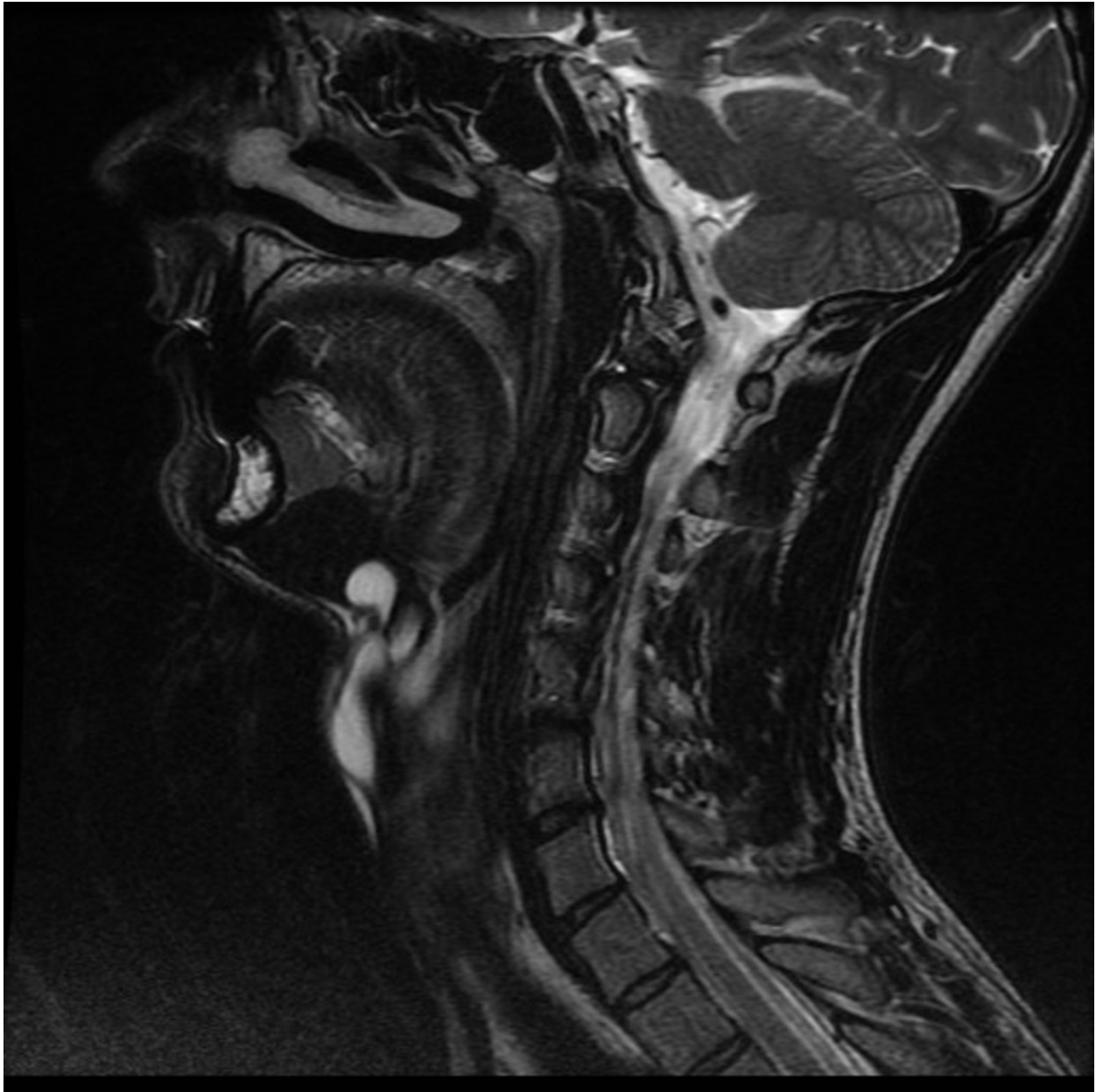


Fig. 8: Sagittal FSE T2 images. 21-year-old man with a branched and polycystic thyroglossal duct cyst. A hyperintense and complex detour cyst at a thyrohyoid level.

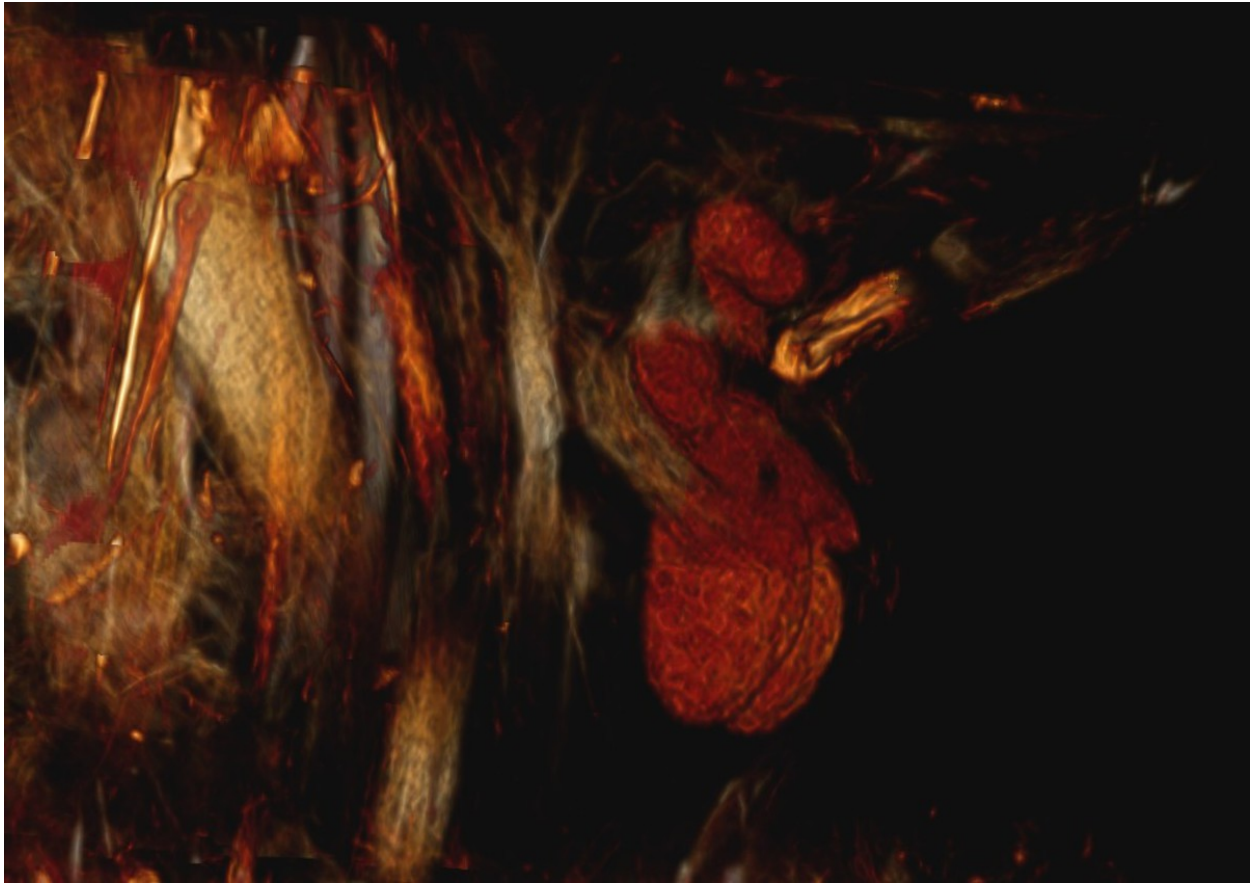


Fig. 9: VR 3D reformation. 21-year-old man with a branched and polycystic thyroglossal duct cyst. The branched and polycystic shape of the cyst and its relationship to hyoid bone are clearly demonstrated.



Fig. 10: 3D MIP oblique. 21-year-old man with a branched and polycystic thyroglossal duct cyst. 3D MIP oblique sagittal reformation highlights the complex architecture of the cyst.

Conclusion

Differential diagnosis with other cystic lesion of the neck and accurate location assessment of TDC for preoperative purposes is essential. For this aims CT and especially MRI with 3D sequences are effective imaging modality.

Personal information

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