CASE REPORT

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Management of giant thyroglossal duct cyst in Dr. Moewardi Hospital Indonesia: A case report

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ABSTRACT

Introduction: Thyroglossal duct cyst (TGDC) is a developmental abnormality in which the thyroglossal duct settles after the decline of the thyroid gland. A 57-year-old female patient presented with complaints of a lump in the middle of her neck that slowly enlarged. The lump was first realized around 10 years ago. When she swallowed, the lump also moved. The swelling was cystic, painless surrounded by healthy skin except for a small area that showed a sign of inflammation. The ultrasound and Magnetic resonance of the neck confirmed TGDC with a size of 120 x 100 x 50 mm. We performed a surgical excision on the cyst and the central part of the hyoid bone (sistrunk procedure) and sent the specimen for histopathological examination, to confirm the preoperative diagnosis. TGDC diagnosis and management are not related to age or size. Operative management standards are carried out with sistrunk procedures.
Case Description: The standard management of giant tyroglossal duct cyst is the sistrunk procedure with maximum result. The surgical procedure has been succesfully performed in this case.
Conclusion: The standard management of TGDC is the sistrunk procedure with maximum results. The surgical procedure has been successfully performed in this case. The standard diagnosis and management of TGDC are not related to the patient's age or cyst size.

Keywords: case report, giant thyroglossal duct cyst, sistrunk.
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INTRODUCTION

Thyroglossal duct cyst (TGDC) is a congenital anomaly most commonly found in the neck area ranging from 2 to 4% of the entire neck mass. It is an epithelial remnant from the thyroglossal duct and is characterized by the appearance of a lump in the midline of the neck at the thyrohyoid membrane level. Giant cysts can interfere with swallowing or cause airway obstruction.[1-3] In this article, we present the management of a rare case where a large-size TGDC was obtained in Indonesia.

CASE DESCRIPTION

A 56-year-old woman presented with complaint of a lump in the neck for 10 years. It grew larger with no pain, no tightness, and normal eating and drinking. Complaints of palpitations, sweating, and trembling were denied. She had no complaint of ears, nose, and throat. Her general condition was quite good and on the physical examination of the neck region with a round mass sized 120 x 100 x 50 mm in the middle of the neck, cystic consistency, attached to the base, no tenderness, and it moved when swallowing and when the tongue was stuck out.

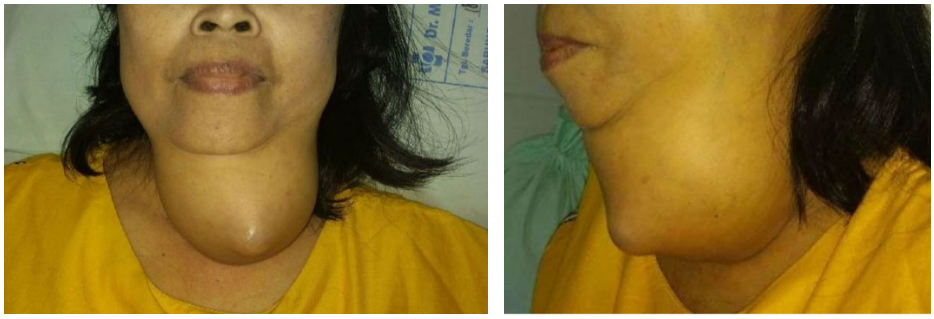

Figure 1. Clinical presentation of the patient

The Ultrasonography (USG) of the neck revealed a cystic lesion in the front neck with wall thickening filled with 212 ml of fluid. The recommendation was to perform Magnetic Resonance (MRI) of the neck. It was concluded that it was a thyroglossal cyst that pushed the trachea, neck, and vascular muscles (a carotid and jugular veins).

We performed a surgical excision on the cyst and the central part of the hyoid bone (sistrunk procedure) and

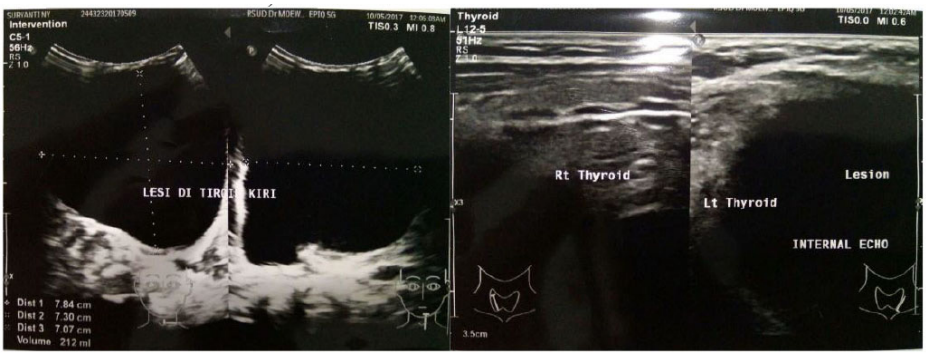

Figure 2. USG of Neck; a large-size cystic lesion

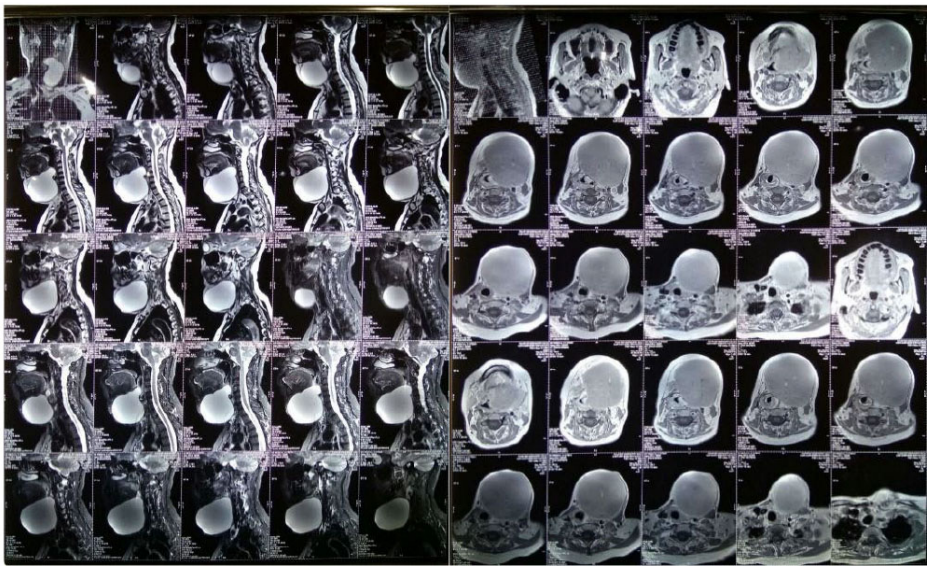

Figure 3. MRI of neck

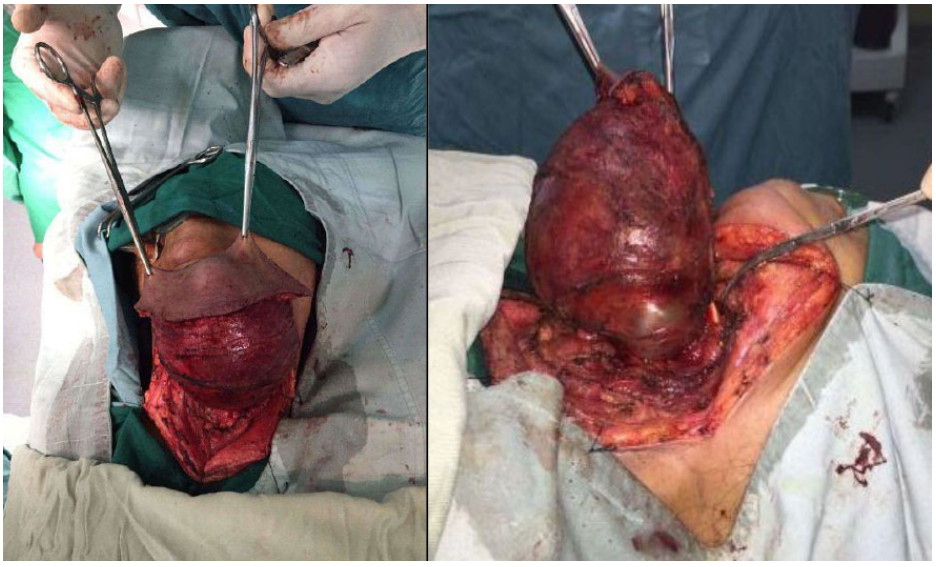

Figure 4. Demonstration of cyst and tract through the intraoperative hyoid bone

sent the specimen for histopathological examination, to confirm the preoperative diagnosis.

DISCUSSION

Thyroglossal duct cyst is the most common congenital abnormality found along the median line of the front neck from the foramen cecum at the base of the tongue to the thyroid gland by 61%, the left paramedian 24%, and the remaining 15% in the right paramedian.[2,3] These various positions are related to the process of embryological development of the thyroid gland. The cystic mass of the thyroglossal duct is usually at each starting point of the pyramidal lobe moving ascending more left lateral to the median line through the hyoid bone from the front, back, or even inside to then penetrate the floor of the mouth between the mylohyoid muscle and reach the bottom the tongue end in the foramen cecum. This cyst can contain fluid or mucus, causing the cyst to widen when infected.[4,5]

The thyroglossal duct cyst is diagnosed based on the anamnesis, physical examination, and additional examination.[5] From the anamnesis, there is a lump of about 10 years old that enlarges slowly while the physical examination finds a cystic mass.[6] This long time range and slow enlargement shows that the mass is benign while the cystic mass is often a congenital lesion.[7] The USG examination indicates a thyroid cyst with a visible thyroid cyst of 212 ml with no intralesional vascular seen and the right thyroid gland within normal limits.

Indications of surgery in thyroglossal duct cysts include complaints of growing cyst size, cosmetics, history of infected mass and, the possible malignant degeneration into cancer.[8] In this case, the increasing size of the cyst becomes a consideration for surgery. The reference surgical procedure for thyroglossal duct cyst is known as sistrunk; this procedure was introduced by Walter Elis Sistrunk in 1920, namely releasing the middle part of the hyoid bone and excision of the thyroglossal duct cyst to the most proximal. This procedure turns out to reduce the recurrence rate to around 4%.[8,9] Failure the hyoid bone release to release the duct simultaneously is the biggest cause

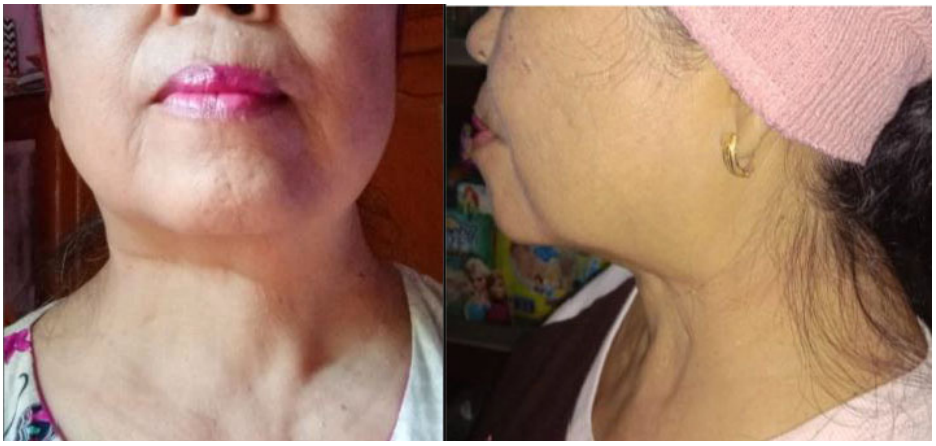

Figure 5. 1 year post-operative; good wound healing, no sign of recurrence

of postoperative recurrence.[9] Recurrent inflammation and infection are the most frequent complications that accompany the course of this cyst, usually preceded by upper respiratory tract infections.[9]

CONCLUSION

The standard management of TGDC is the sistrunk procedure with maximum results. The surgical procedure has been successfully performed in this case. The standard diagnosis and management of TGDC are not related to the patient's age or cyst size.

ETHICAL CONSIDERATION

This study has received ethical approval from the Ethics Commission of Faculty of Medicine, Universitas Sebelas Maret, Surakarta before the research was carried out.

CONFLICT OF INTEREST

No potential conflict of interest was reported by the authors.

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AUTHOR CONTRIBUTIONS

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