



Technical Report

Chemical analysis of cyst fluid is an option to be kept in mind

Ugur Kesimal¹, Ozgur Aydin², Fatma Dilek Cicek³

¹Department of Clinical Radiology, Kepez Public Hospital, Antalya, Turkey

²Department of Biochemistry Laboratory, Kepez Public Hospital, Antalya, Turkey

³Department of Pathology Laboratory, Kepez Public Hospital, Antalya, Turkey

Anamnesis, physical examination, and radiological examination are generally sufficient to diagnose a cystic lesion in the neck. When needed, ultrasonography is the noninvasive, cost-effective radiological procedure of choice. The differential diagnosis of a cystic neck lesion includes a branchial cleft cyst, lipoma, dermoid cyst, sebaceous cyst, enlarged lymph node, and metastatic lesion (metastatic thyroid carcinoma, in particular).

Case presentation

A 61-year-old male patient presented at the hospital with a lesion in the neck region. A physical examination followed by ultrasonography revealed a 25x17 mm subcutaneous cystic lesion located in the superior anterior midline strongly suggesting a thyroglossal duct cyst (TDC). The patient was unwilling to undergo excision of the lesion, so a fine-needle aspiration was performed. 4 cc of opaque, white material was sent to pathology and a 1 cc portion was separated for chemical analysis of thyroglobulin and thyroid hormones. The sample was centrifuged at 3000 rpm for 10 minutes to obtain a clear supernatant. The results indicated that the cyst material contained 0.72 ng/mL thyroglobulin (1.6-50 ng/mL serum normal values), a free thyroxine level (FT4) (0.55 ng/dL) that was lower than the serum FT4 value (1.11 ng/dL), and a free triiodothyronine (FT3) level (3.13 pg/mL) that was higher than the serum FT3 value (2.74 pg/mL). The cytology report confirmed a benign lesion (Fig. 1).

Fine-needle aspiration cytology is a diagnostic tool available for the management of neck masses. Its utility is not the subject of this report. Thyroglobulin measurement in aspiration material is already recommended by the American and Euro-

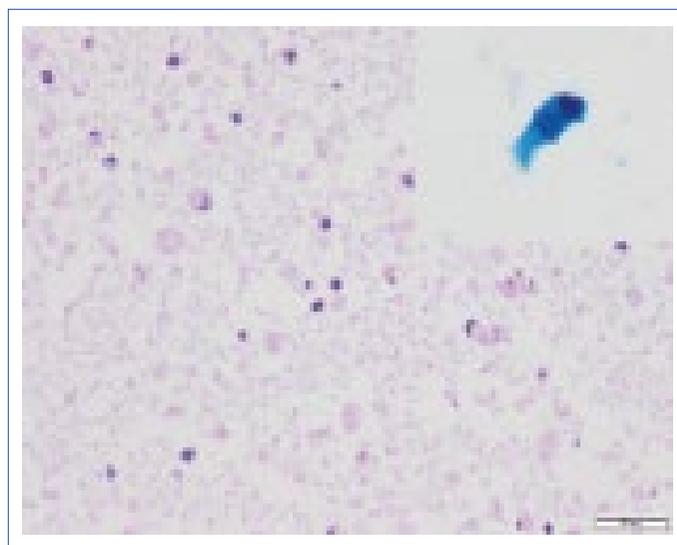


Figure 1. The cytology of the aspiration sample revealed mixed inflammation on a proteinaceous background and a few ciliated epithelial cells (inset, upper right).

pean Thyroid Association guidelines to diagnose cystic thyroid cancer metastases [1, 2]. While debate on cut-off values continues, a common sense is emerging that the addition of chemical analysis is much more decisive than cytological examination alone [3]. Diagnosing a TDC is not difficult in the majority of cases. The real problem in our case was that the lesion was not excised, preventing a final pathological diagnosis. The presence of thyroglobulin and thyroid hormones were supportive of a diagnosis of a TDC. The aim of this report is to encourage medical care professionals to use the chemical

Address for correspondence: Ozgur Aydin, MD. Department of Biochemistry Laboratory, Kepez Public Hospital, Antalya, Turkey

Phone: +90 543 235 76 29 **E-mail:** belozgur@hotmail.com **ORCID:** 0000-0002-6123-6186

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analysis option. Accumulated data will contribute to compulsory cut-off values [4].

Our patient provided written, informed consent to publish information pertaining to his procedure.

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