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## Tuberculous abscess of the thyroid gland in an HIV-infected patient

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*A case of tuberculous abscess of the thyroid gland, manifested with 1½ month history a solitary thyroid nodule and subsequent abscess formation, was reported. The diagnosis was obtained by fine needle aspiration (FNA) and HIV infection was later detected. Extrapulmonary tuberculosis, including involvement of an uncommon site, should be considered in patients with these dual infections in order to provide early diagnosis and prompt effective treatment.*

**Key words :** *Tuberculous abscess, Thyroid gland , HIV infection, Extrapulmonary tuberculosis.*

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**ทิมลรัตน์ เตโชพิทยากุล, นรินทร์ หิรัญสุทธิกุล. ฝีวัณโรคของต่อมไทรอยด์ในผู้ป่วยที่ติดเชื้อ  
เฮช. ไอ. วี. จุฬาลงกรณ์เวชสาร 2541 เม.ย;42(4): 279-83**

ได้รายงานผู้ป่วยฝีวัณโรคของต่อมไทรอยด์ มาโรงพยาบาลด้วยเรื่องก้อนเดี่ยวของต่อมไทรอยด์ มา 1 1/2 เดือน ต่อมาเกิดการอักเสบเป็นฝีหนองได้รับการวินิจฉัย โดยการดูดด้วยเข็มชนิดละเอียด (FNA) และตรวจพบว่าผู้ป่วยติดเชื้อ เฮช.ไอ.วี. ในผู้ป่วยที่ติดเชื้อเฮช.ไอ.วี. และวัณโรค ควรนึกถึงวัณโรคนอกปอดรวมทั้งวัณโรคในบริเวณที่พบไม่บ่อยด้วยเสมอ เพื่อการวินิจฉัยตั้งแต่ระยะแรก และให้การรักษามีประสิทธิภาพอย่างรวดเร็วต่อไป

Tuberculous involvement of the thyroid gland is a rare occurrence. Many reports mentioned the occurrence of tuberculous thyroiditis only as a rare disease which has seldom been reported in the past.(1-3) However, since extrapulmonary tuberculosis is now seen more frequently due to HIV infection, the existence of this condition should be looked for. We report here a case of tuberculous abscess of the thyroid gland with HIV seropositive and a brief review of the related literature.

### Case Report

A 38 year old Thai male was admitted to the surgical ward of Chulalongkorn Hospital on June 17,1996 with a chief complaint of a slightly painful anterior neck mass which he had experienced for one and a half months. He also had an occasionally dry cough with slight weight loss, but there was no fever, palpitation or heat intolerance. He obtained medication from private clinics but without improvement. Two weeks prior to admission, he came to the surgical outpatient department of Chulalongkorn Hospital. Physical examination revealed a stony-hard mass, 2 x 3 cm<sup>2</sup> in size at the thyroid isthmus with normal overlying skin. A thyroid scan was done and showed a normal sized gland with a midline trilobed cold nodule. A fine needle aspiration (FNA) demonstrated a cystic content with inflammatory cells but no thyroid follicle, granuloma or caseation were found. After the FNA, he developed fever and progressively painful swelling of the mass for one week. Thus he returned to the hospital and was admitted with a diagnosis of thyroidal abscess.

Physical examination on admission showed a thin, male patient with low grade fever, oral hairy

leukoplakia and 4 - 5 enlarged left cervical lymph nodes, 0.5 - 1 cm. in diameter. The thyroid gland was enlarged with a 4 x 5 cm<sup>2</sup>, tender and fluctuating mass. Other physical examination was unremarkable. Laboratory findings revealed hemoglobin of 11.3 g/dl, total leukocyte count of 12,800/cu.mm. with 68 % neutrophil, 21 % lymphocyte and 11% monocyte.

Incision and drainage was done and 30 ml of pus obtained. Gram's stain of the pus revealed no organism. Abscess of the thyroid gland was considered and cloxacillin 4 gm per day intravenously had been given for 5 days without clinical improvement. On the 5th day of admission chest X-rays was done and showed RUL infiltration with cavity. Pulmonary tuberculosis was tentatively diagnosed. Sputum AFB stain for 3 days were negative. Anti-HIV was done with positive result subsequently. The culture of pus from thyroid gland did not show any organism, so pus from thyroid surgical wound was re-examined and revealed a positive AFB stain. Tuberculous abscess of the thyroid gland was diagnosed and he was treated with a short course of anti-tuberculous chemotherapy. One and three month follow up showed clinical and radiological improvement. At the time of report he was still taking the medication and continued follow up with favorable outcome.

### Discussion

Tuberculosis of the thyroid gland is an uncommon condition with a prevalence of approximately 0.1% reported in 1932 by Rankin and Graham,<sup>(4)</sup> who studied a large series of 20,758 partial thyroidectomy specimens and found only two cases of tuberculosis. A similar prevalence was confirmed by Bolis, in 1970,<sup>(5)</sup> who found two cases of

fibrocaceous tuberculosis in 74,393 consecutive thyroid biopsies in an Italian Center. Recently, Das, et al, reported 8 cases of tuberculous thyroiditis in 1,283 cases of thyroid lesions subjected to fine needle aspiration cytology (FNAC) over a period of two years.<sup>(6)</sup>

There is a broad spectrum of clinical manifestations of tuberculosis of the thyroid gland. The more common is multiple lesions throughout the gland in association with miliary tuberculosis which does not give rise to clinical thyroid disease.<sup>(4)</sup> Other manifestations include goiter with focal caseation mimicking carcinoma,<sup>(7)</sup> chronic fibrosing tuberculosis<sup>(8)</sup> which is difficult to distinguish from De Quervain's thyroiditis, cold abscess appearing superficially<sup>(4)</sup> and very rarely an acute thyroidal abscess.<sup>(9)</sup> Our case presented with a slightly painful solitary thyroid nodule involving the isthmus region and later developing an abscess after FNA. There has been extremely few case reports of thyroid abscess as a complication of FNA. Isenberg reported one case of coagulase negative staphylococcal thyroid abscess resulting from FNA.<sup>(10)</sup> In our case, even though the abscess occurred after FNA, but without pyogenic bacteria demonstrated both by Gram's stain and culture, it was unlikely to be a pyogenic thyroid abscess. However, we could not determine whether there was a relationship between the FNA and the tuberculous abscess formation in our patient. Definite criteria for diagnosis of tuberculous abscess of the thyroid gland has not yet been established. However, Seed proposed three conditions required for the diagnosis.<sup>(11)</sup> These included finding of acid fast bacilli within the thyroid, gland a necrotic or ab-

scussed gland, and the demonstration of definite focus of tuberculosis outside the thyroid gland. Histological and bacteriological confirmation are adequate to make the diagnosis of tuberculous abscess of the thyroid gland and fulfilment of the third criterion is not essential. Our case had the first two criteria. For the third criterion, even though the chest X-ray findings suggested active pulmonary tuberculosis, definite extrathyroidal tuberculosis could not be demonstrated due to negative AFB staining of the sputum. Our patient was also found to be HIV infected and he likely had both pulmonary tuberculosis and extrapulmonary tuberculosis involving the thyroid gland. Extrapulmonary involvement is one of the most frequently reported features of tuberculosis in HIV infection, especially in the advanced stage it occurs in 40-75% of patients with dual infection.<sup>(12)</sup> Many extrapulmonary sites have been reported, including the central nervous system, bone, viscera, skin, pericardium, eye and pharynx. Nevertheless the thyroid gland is rarely mentioned. So extrapulmonary tuberculosis should be looked for even in an uncommon site such as the thyroid gland in this AIDS era when tuberculosis is more wide spread than in the past, especially in the developing country including Thailand.

In conclusion we reported a tuberculous abscess of the thyroid gland in an HIV -infected patient who was presented with a solitary thyroid nodule and subsequently developed abscess after FNA. Extrapulmonary tuberculosis should be searched for, even in uncommon sites such as thyroid gland, in patients with these dual infections in order to provide prompt and effective anti-tuberculous chemotherapy.

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