

## Occult Carcinoma of the Thyroid

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(Received November 13, 1967)

Carcinomas of the thyroid gland have various kinds of curious growing or extending. Some of them are so slow-growing that there is neither anaplasia nor evidence of rapid cell growth (1). In the group of papillary carcinomas microscopically, it was apparent that the tumors may metastasize to the cervical lymph nodes even though the primary lesion in the thyroid is impalpable or small. They are described as "occult papillary carcinoma" by Woolner et al (2). Some patients with untreatable metastases have been known to live with the diseases for 10 to 20 years. In some instances, thyroid cancers present extreme malignancies, so that only 4 or 5 months survival from the diagnosis is common.

In this paper a case which is regarded as so-called "occult papillary carcinoma" of the thyroid is present.

### REPORT OF A CASE

The patient, a 63 year-old female, was admitted to our Department on Aug. 5th, 1967, as an emergency case with severe dyspnea and high fever. She began to notice hoarseness and some disturbance of passage of ordinary diet at the beginning of July, 1967. So, soon later, she was first seen at our out-patient clinic and a paralysis of the right recurrent nerve was detected. X-ray examination of the larynx and neck done on Aug. 3rd showed a shadow in the trachea and retropharyngeal space, suggesting a mass in these areas (Fig. 1). Two days prior to her admission, she had severe dyspnea, stridor and difficulty on swallowing. In addition she twice had had hoarseness, about 4 and 2 years ago, which had ceased within one month spontaneously.

On physical examination, she was dry skinned and slight emaciated, but moderate fatty, with severe dyspnea and dominant stridor. Her neck was diffuse swollen, bilaterally. Wheezing continuous rales were demonstrated on the left sided chest. Local examination revealed that the right vocal cord was paralytic and the retropharyngeal wall was diffuse bulging, dominantly in the right side. Any visible mass was not observed in the larynx. There was a hard indurated mass in the forward neck, bilaterally (larger in the right side than the left).

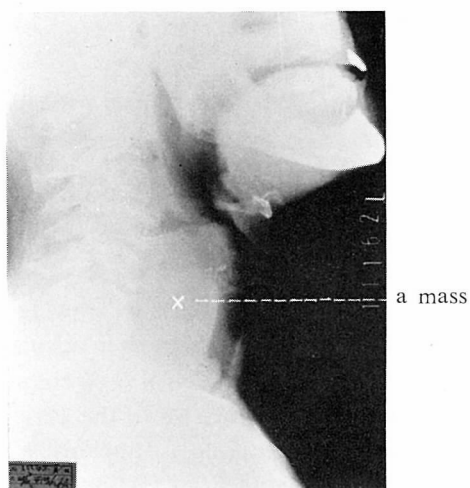


Fig. 1. Lateral x-ray of the neck showing prominent tumor of the posterior hypopharyngo-esophageal wall.

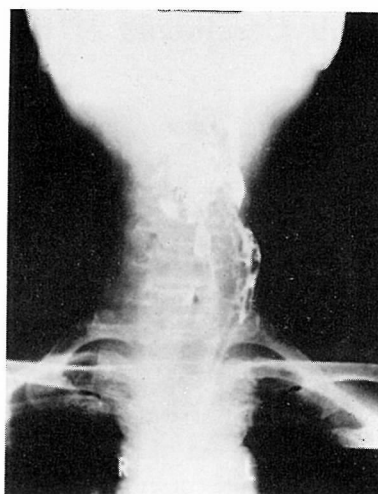


Fig. 2. Spot film of the cervical region in front view, showing a curved passage of the contrast meal to the left side and leakage to the air way.

A bronchoscopy carried out few hours later admission revealed some massive obstruction in the trachea. Immediately, tracheotomy was done at the place between the upper 2nd and lower 4th tracheal rings. A mass, soft and granulated, was observed in the trachea leveled at the 4th and 5th rings, occupying the tracheal air way and arising from the posterior wall of the trachea. The mass was excised by a punch-forcep and bleeding was controled with electrical cauterization. The mass removed was  $1 \times 2 \times 3$  cm. in size. Histological examination of this mass showed undifferentiated carcinoma. Examination of the blood disclosed 39.5 % of hematocrit ;  $422 \times 10^4$  red blood cells ; 7,800 white blood cells, with differential count of 67% segmented neutrophils, 6.5% nonsegmented neutrophils, 3.5 % eosinophils, 20 % lymphocytes, and 3 % plasmacytes. The systematic blood chemical tests revealed slight depletion with hyperglycemia. Serologic test for syphilis was negative.

Fluoroscopic and radiographic examinations of the esophagus done on Aug. 7th, 1967, disclosed follows findings : 1) narrowing and curved passage of the contrast meal to the left side, and 2) leakage of the meal to the air way as shown by Fig. 2 and 3. Scintigram showed a normal pattern (Fig. 4).

From Aug. 25th, 1967, venous injection of endoxan was began with 100 mg. dosis daily. The neck swelling on both sides seen as she was admitted was getting grow and a dark reddish and prominent nodular swelling was observed on the lower right lateral neck, which became more dominant day by day. On Sept. 2nd, the nodular swelling was fluctuated and a few days later small pus

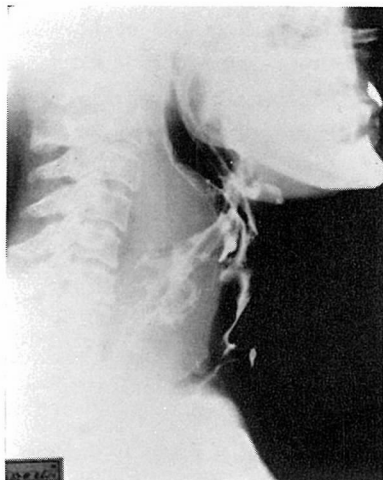


Fig. 3. Spot film of the cervical region in lateral view, showing a curved passage of the contrast meal, leakage to the air way and extreme swelling of the prevertebral region.

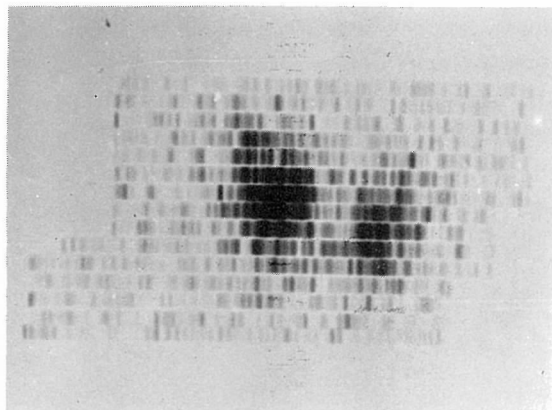


Fig. 4. Scintigram showing normal up-take.

bulles formed over it. On Sept. 5 th, an incision was made on this swelling and a moderate pus was flowing, which was sent to bacteriological examination and was reported pseudomonas infection.

Removal of the neck tumors was attempted on Sept. 14th, 1967. An oblique vertical incision was made on the right lateral neck along the anterior margin of the sternocleidomastoid muscle about 9 cm. in length. There appeared a nearly adult fist gross mass well encapsulated in the neck, compressing the esophagus to the left side. It was present postero-laterally to the larynx, leveling from the arytenoid region to the 2nd tracheal ring. A rupture of the mass encapsulated was occurred during the manual separation, however, soft parenchymal masses were removed as whole as possible (see Fig. 5). The tear wound communicated to the upper esophagus. It was most likely due to invasion of the tumor. Apart from this large tumor, there were two swelled lymph nodes,

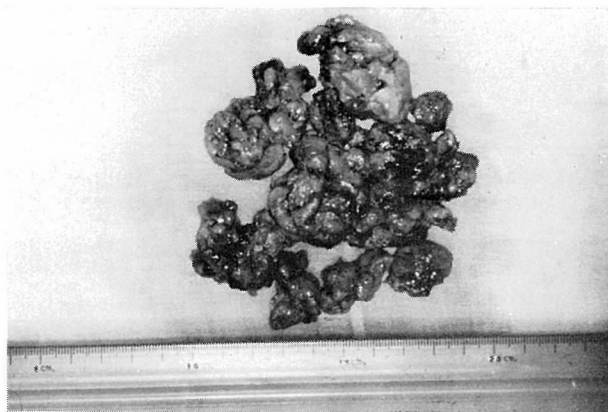


Fig. 5.  
Parenchymal masses removed from the main neck tumor.

approximately walnut size, on the under part of the right lateral neck, which were excised. These swelled lymph nodes were communicated with a fistula to the prominent nodular mass of the right lateral neck previously incised. A large gastric washing tube (No 12) was inserted to the esophagus orally under direct observation through the neck wound (Fig. 6).

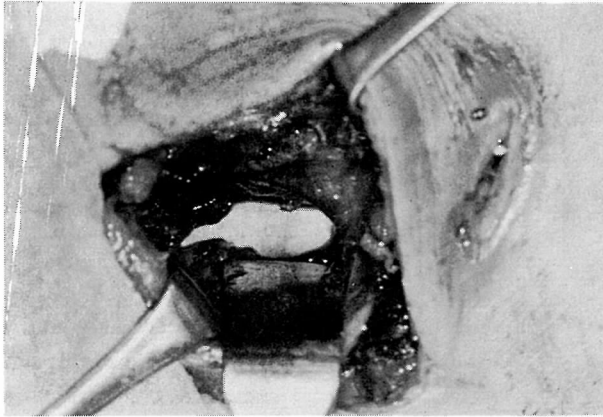


Fig. 6.  
Surgical wound of the lateral neck, through it a nasal feeding tube is seen.

The postoperative course was not so eventful. Postoperative 40 days, the large aggregate of the masses filling the neck disappeared, but a hard induration was observed on the right lateral neck. A fistula was remaining according to the previous incision. The nasal feeding tube was yet using.

On microscopic examination, the specimen of the main tumor of the neck revealed an undifferentiated carcinoma characterized by giant cells shown as Fig. 7 and that of another neck tumors siting laterally showed a papillary adenocarcinoma (see Fig. 8).

Fig. 7. Photomicrographs of the main mass, showing an undifferentiated carcinoma in giant cells type, (A) low power, (B) high power.

Fig. 8. Photomicrographs of the lateral neck tumor, showing a papillary adenocarcinoma, (A) low power, (B) high power.

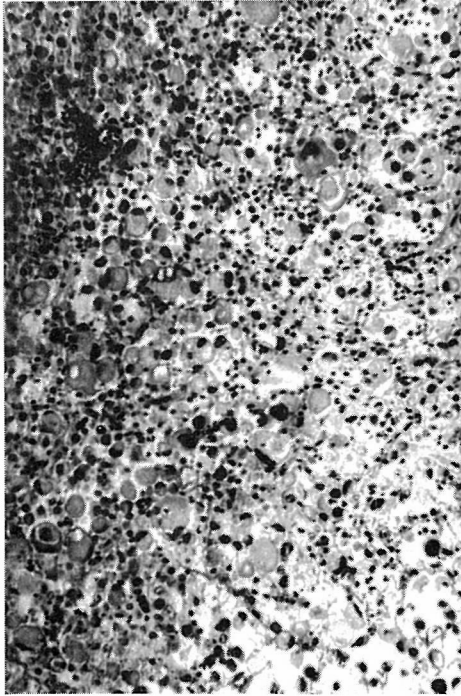
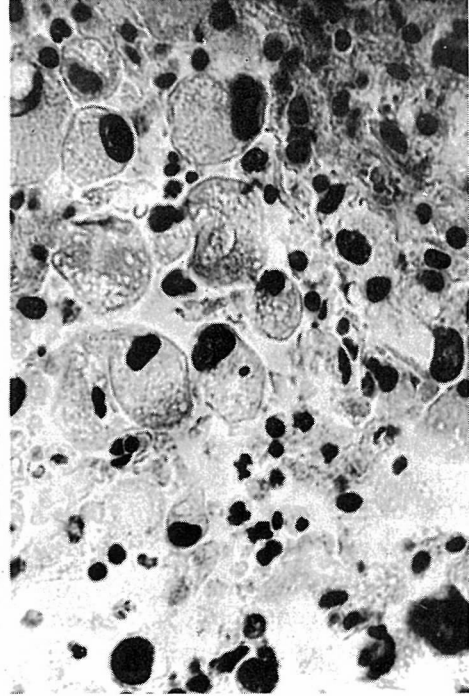


Fig. 7. (A)



(B)

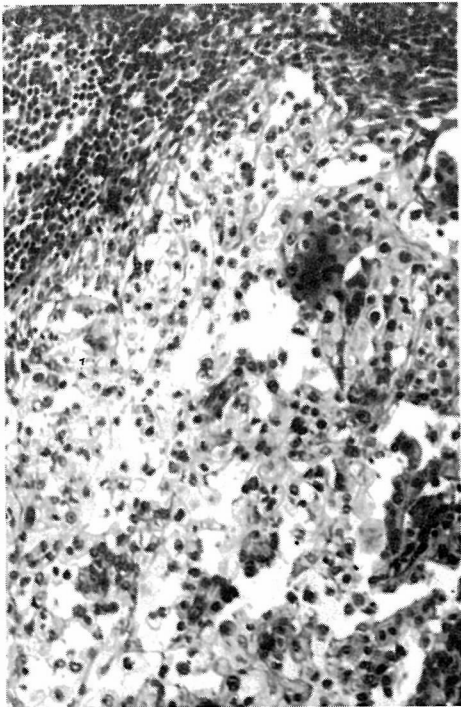


Fig. 8. (A)



(B)

## COMMENTS

Thyroid cancers are classified histologically into two groups (1);

- I. differentiated carcinoma
  1. follicular carcinoma
    - a. low grade, localized carcinoma in follicular adenoma.
    - b. follicular adenocarcinoma.
  2. papillary carcinoma
    - low grade, localized carcinoma in papillary adenoma.
- II. undifferentiated carcinoma
  1. small cell carcinoma
  2. giant cell carcinoma

In addition to these carcinomas, there are several miscellaneous malignant tumors of the thyroid including epidermoid carcinoma, Hürthle cell carcinoma, fibrosarcoma, lateral aberrant thyroid tumor, lymphoma and secondary tumor. In incidence differentiated carcinoma is predominant and about 80 per cent. However, an admixture types is common. Low grade carcinomas of both follicular and papillary types are not distinguishable from benign adenoma except for invasion to the blood and lymphatic vessels and tumor capsule, and are easily cured only with adequate excision. Follicular adenocarcinoma invase frequently blood vessel and metastases to the lung and bone are proportionaly common. Papillary adenocarcinomas are the most common of all thyroid cancers. They are often characterized by the metastases, particularly in the cervical lymph nodes, which may be considerably more prominent than the primary tumor in the thyroid. Undifferentiated carcinomas exhibit usually extreme malignancies of distant metastases and extension to adjacent organs causing death.

The case reported here is an admixture type of papillary adenocarcinoma and undifferentiated carcinoma with giant cells histologically. In the clinical feature, it was first recognized as massive tumors in the neck and trachea, the latter causing dyspnea, and was not distinguished as metastatic carcinoma from the thyroid tumor until the surgery and following detailed microscopic examination were done, because the thyroid gland was almost normal appearance in both preoperative palpation and surgical exploration so that histological examination of thyroid itself was not performed.

Papillary carcinomas of the thyroid tend to metastasize to the regional lymph nodes and this metastasis may be the first and only sign of papillary carcinoma. Woolner et al (2) reported 58 cases with nodal metastasis, out of 140 occult papillary carcinomas of the thyroid from the observation of 30 years period. Out of these 58 cases with nodal metastasis, involvement of multiple regional nodes was noted in 52 cases and a single large nodal metastasis was detected in

the remaining 6. In many instances the enlargement of nodes was massive, producing a huge aggregate of metastatic tissue. Franzell et al (3) noted that 85 % of patients whose neck were dissected for papillary thyroid cancer showed metastatic nodes. Others (4) reported 73 % of incidence of cervical node metastasis.

Regarding to such tendency of papillary thyroid carcinomas, two theoretical opinions are there. One of them is that the carcinoma may arise from "lateral aberrant thyroid tissue" existing in the lymph nodes, which is the result of embryological displacements of the thyroid. This concept was well summarized by Wozencraft et al (6). Another one is that this tendency is attribute to the biologic behavior of papillary carcinoma and impalpable or minute thyroid carcinoma with distinct enlargement of metastatic lymph nodes is called "occult papillary carcinoma" (2) or "occult sclerosing carcinoma" (7). Butler et al (8) believe that any thyroid tissue found in a lymph node represents metastatic thyroid cancer from their observations with serially sectioning microscopic examination of the thyroid. At the present time, the concept of biologic behavior is predominant.

#### SUMMARY

A case of occult carcinoma of the thyroid, seen in a 63 year-old female with complaints of hoarseness, prominent masses on both lateral neck, difficulty in swallowing and dyspnea, was reported.

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