

: 1995 5 1998 7 CT
 179
 가 , 3mm
 CT
 : 179 53 (29.6%) , 5.6mm (3-
 27mm) 44 (17-80) , 1:11
 가 가
 (p<0.05), 가 5.4×2.8cm, 1.6×1.6cm
 가 46 (86.8%), 7 (13.2%) (p>0.05).
 가 (p<0.05).
 가 1mm³ 가 0.015mm (p<0.05).
 31 (67.4%), 15 (32.6%)
 12 (26.15%), 4 (8.7%), 30 (65.2%) (p>0.05).
 32 (69.6%), 10 (21.7%), 4 (8.7%)
 (p>0.05).
 : 29.6%
 가 가

가 (3).
 50% 가
 (1). 가 (2-5). 가
 가 (1-6),
 (2). 가 (5, 6). X
 50-70%

1995 5 1998 7
 (Computed Tomography, CT)
 179
 13-80 44 15
 164 179
 3
 179 81 98
 (n=50), Hashimoto (n=2),
 (n=1), (n=10), (follicular adenoma, n=66),
 (papillary carcinoma, n=44), (follicular carcinoma,
 n=2), (undifferentiated carcinoma, n=2),
 (anaplastic cancer, n=2)

3mm
 가 3mm 179
 100 1.28mm,
 1.73mm 179
 가 1, 2, 3, 4mm

가 2mm 3mm
 가 3mm
 가
 가 (Fig. 1).

CT
 가 Varian (DXB-0324CS=A, Toshiba Corporation) 120kVp, 250mA
 0.0006-0.0009
 Acouson 128 XP 7MHz ATL-ultramark 9 (UM9 H-DI-L5) 5-10MHz
 CT Somatom Plus-32 scanner (Siemens, Erlangen, Germany) (helical technique)
 100cc (Ultravist 300, Schering, Germany) 2cc
 10mm, 10mm/sec, 10mm

151

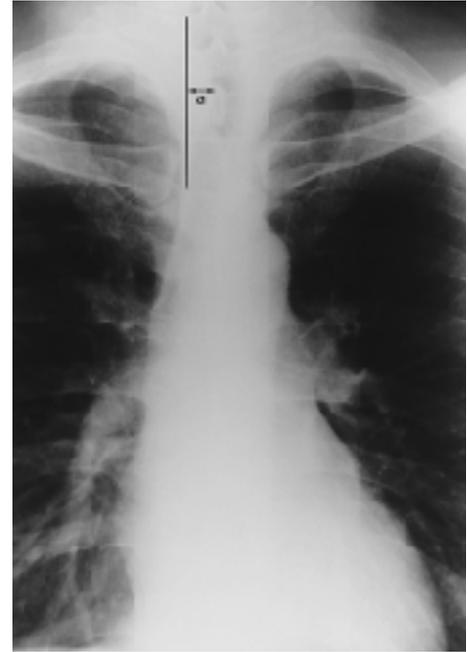


Fig. 1. Tracheal deviation was measured on chest PA radiograph. It was measured by the widest distance(a) of the perpendicular line to the line connecting the superior and inferior border of normally located trachea.

9 CT, CT 가 19
 CT 가
 1
 가 2mm 3mm
 가 3mm
 가
 가 (Fig. 1).
 CT
 가 Varian (DXB-0324CS=A, Toshiba Corporation) 120kVp, 250mA
 0.0006-0.0009
 Acouson 128 XP 7MHz ATL-ultramark 9 (UM9 H-DI-L5) 5-10MHz
 CT Somatom Plus-32 scanner (Siemens, Erlangen, Germany) (helical technique)
 100cc (Ultravist 300, Schering, Germany) 2cc
 10mm, 10mm/sec, 10mm
 151
 Wilcoxon Rank Sums
 test,
 Anova test t-
 test
 179 53
 (29.6%) 5.6mm (3-27mm) 46 (86.8%), 7
 (13.2%) 가 (p>0.005).
 가 5.4
 ×2.8cm, 1.6×1.6cm 가 가
 가 가 (p<0.05) (Fig. 2).

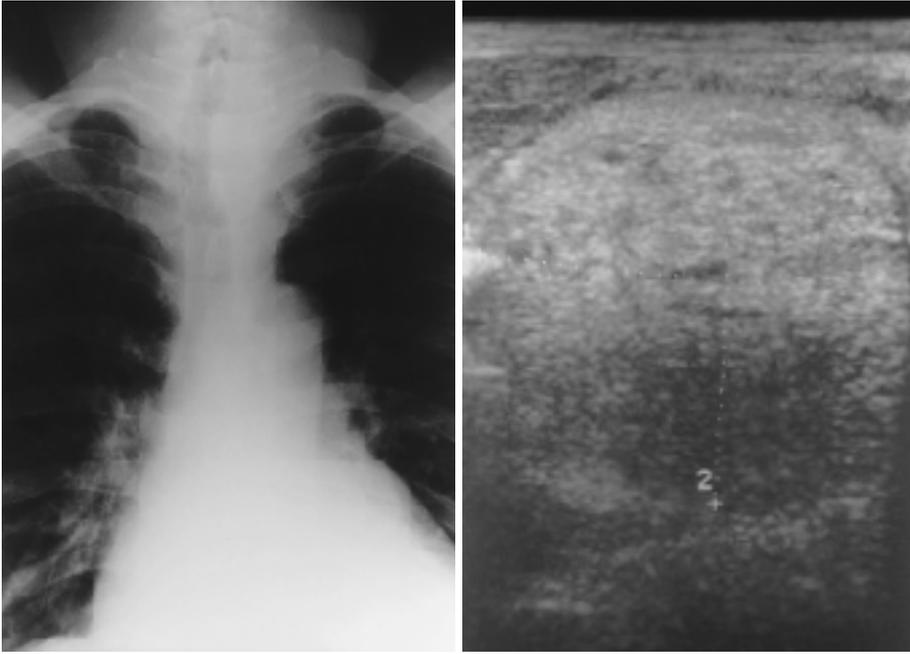


Fig. 2. A 39 -year-old woman with thyroid adenoma.
 A. Chest radiograph shows 7mm right side deviation of trachea.
 B. Thyroid ultrasonography shows 3.3 x 2.9cm sized well-defined homogeneous hyperechoic mass in left thyroid lobe.

가 가 (p<0.05).
 가 1mm³ 가 0.015mm (2).
 31 (67.4%), 15
 (32.6%), 12 (26.1%), 4 (8.7%), (3).
 30 (65.2%) 가
 가 (p>0.05).
 32 (69.6%), 10 (21.7%), (1, 4, 5).
 4 (8.7%) 가 Alfonso (5)
 가 (p>0.05). 가 (1, 4, 5).
 가
 가
 가
 가 179 53 (29.6%) 가
 (2). Alfonso (5) 가
 가 33.3%, 가 24.2%
 . Alfonso (5) Jauregui (6) 35%
 가
 (n = 176), 3
 . Jauregui (6)
 Shaha (4) 가 가 FVL
 가 (flow volume loop) 60%
 가
 3% 가 , FVL
 가
 (4, 5). Alfonso (5) 가
 50-70% 2/3
 (1, 3).

, Alfonso (5)

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Tracheal Deviation in Thyroid Lesions: Correlation with Chest Radiograph¹

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Purpose: To evaluate the prevalence and degree of tracheal deviation seen on chest PA radiographs of thyroid lesions and to correlate these findings with their size, volume, pattern (localized or diffuse), location, and constitution.

Materials and Methods: Between May 1995 and July 1998, tracheal deviation seen on chest PA radiographs was retrospectively reviewed in 179 consecutive cases in which a thyroid lesion was seen on ultrasonography and/or CT of the thyroid. The criterion of tracheal deviation was more than 3 mm. Thyroid lesions were classified as diffuse or localized according to their pattern; as central, marginal or borderline on the basis of their location, and as cystic, solid or mixed, depending on their constitution.

Results: Tracheal deviation was seen in 53 cases (29.6%, n= 179); mean deviation was 5.6 mm (3-27 mm). Its incidence increased with lesion size ($p < 0.05$), the mean of which was 5.4×2.8 cm in the tracheal deviation group and 1.6×1.2 cm in the non-tracheal deviation group. Tracheal deviation was seen in 46 localized-type cases (86.8%) and 7 diffuse-type cases (13.2%) ($p > 0.05$). The volume of the former type was measured and the incidence and degree of tracheal deviation was found to increase with lesion volume ($p < 0.05$). For every cubic mm of volume increase, tracheal deviation increased by 0.015 mm ($p < 0.05$). Localized-type lesions were located in the right lobe in 31 cases (67.4%) and the left lobe in 15 (32.6%) ($p > 0.05$). The most common location was borderline (n= 30, 65.2%), followed by central (n= 12, 26.1%), and marginal (n= 4, 8.7%). The most common type by constitution was solid (n= 32, 69.6%), followed by cystic (n= 10, 21.7%), and mixed type (n= 4, 8.7%) ($p > 0.05$).

Conclusion: Chest PA radiography revealed tracheal deviation of thyroid lesion in 53 cases (29.6%). The incidence and degree of deviation increased with increasing size and volume of the lesion, but deviation did not correlate with the pattern (localized or diffuse), location or constitution of the lesion.

Index words : Trachea, compression
Thyroid, neoplasms

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