

국소진행성 갑상선암의 치료

Treatment of Locally Advanced Thyroid Cancer

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Hang - Seok Chang, M.D.

Department of Surgery

Yonsei University College of Medicine, Yongdong Severance Hospital

E - mail : surghsc@yumc.yonsei.ac.kr

Abstract

Thyroid carcinoma is a slowly growing tumor and rarely invades adjacent tissues or organs. However, up to 21% of the patients with well - differentiated thyroid cancers show local invasion, and of those 10 to 15% of patients with papillary cancer who eventually die of the disease, active local disease has been the most common finding at the time of death. The common sites of local invasion are strap muscle, recurrent laryngeal nerve, laryngotracheal tree, esophagus, and great vessels in the lateral compartment and mediastinum. Uncontrolled local invasion to vital organs in the neck causes significant morbidity, affects the quality of life, and finally influences the survival. In cases with limited involvement of the larynx or trachea, the option of treatment includes limited shaving - off resection or radical resection followed by reconstructive procedures. When operation is planned, the level of acceptable morbidity and the achievement of therapeutic outcomes should be determined in advance. In cases with aggressive invasion to the adjacent tissues, radical resection is the treatment modality of choice with favorable prognosis. Postoperative adjuvant therapies have been the matter of controversy, however, there is a general consensus, especially for the high - risk patients, that radioiodine therapy and TSH suppression after radical resection are beneficial. The benefits of external radiation therapy in locally advanced thyroid cancers are unclear, however, it can be effective in patients with microscopic residual disease postoperatively. Radical eradication of locally advanced thyroid carcinoma followed by appropriate adjuvant therapy should be considered to be the treatment of choice in locally advanced thyroid cancers.

Keywords : Locally advanced thyroid cancer; Radical resection; Limited resection; Reconstruction; Operative morbidity; Postoperative adjuvant therapy

가

(well - differentiated thyroid cancer)

21%

(1 ~ 3).

(thyroid capsule)

(strap muscles),

(recurrent laryngeal nerve)

(minor type)

(major type)

가 .

(vital organ)

,

(4~8).

가 ,

(ana-

plastic thyroid cancer)

,

,

(palliative effect)

(9, 10).

(medullary thyroid cancer)

3~4 가 가

가 , (9, 17).

(11).

15%,

8% 가 .

가 가

, 1960

가

(12, 13), (11).

(14~16).

(tall cell variant), (columnar cell variant), (diffuse sclerosing type)

(papillary thyroid cancer) 가

가 (18, 19).

가 , , , ,

,

(17, 20, 21).

,

.

- 가 (thyroglobulin), (hoarseness) (calcitonin) , 가 (frank stridor) . (laryngotracheal invasion)
- 2. (Plain X - ray) (simple neck X - ray) (chest X - ray) (superior venal cava) , (superior vena cava syndrome) (deviation), , 가 (spinal accessory nerve), (vagus nerve), (sympathetic trunk) (4, 15, 22~26).
- 3. 가 (extracapsular invasion), , 가
- 4. (Computed Tomographic Scan, CT Scan) CT , , (interventional radiologic exam) (arytenoid cartilage) 가
- 1. CT 가 CT 가 가

5. (Magnetic Resonance Imaging, MRI) (excisional or incisional biopsy) 가
CT (soft (28, 29).
tissue) 가 , (radical neck dissec-
tion)
CT
(radio - iodine therapy)
6. (Radioscintigraphic Scan)
 ^{131}I , ^{125}I , ^{201}Tl , $^{99\text{m}}\text{Tc}$ 가
가 가
,
, ^{67}Ga scan
가 가 (24).
9. - (upper aerodigestive tract)
-
가
(direct laryngos-
copy)
,
, -
(fiberoptic bronchoscopy)
(Barium study)
(fiberoptic esophagoscopy)
(21).
7. (Positron Emission Tomographic Scan, PET Scan)
, 가
PET scan
CT, MRI, 가
(21, 27).
8. (fine needle aspiration cytology) (internal jugular vein), (carotid
artery), (phrenic
nerve)
가
가

가

가 , ,

•

가 2.

가

가

(tracheo - esophageal nodes)

가 (1)(5, 8, 9, 11).

, 가

(radical

resection with pathologically negative margin)

(17, 18, 33).

(shaving - off procedures)

;

가

가

•

가

가

가

가

(17,

1.

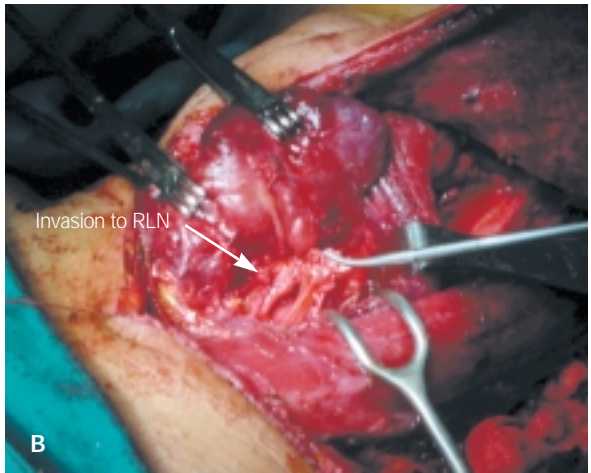
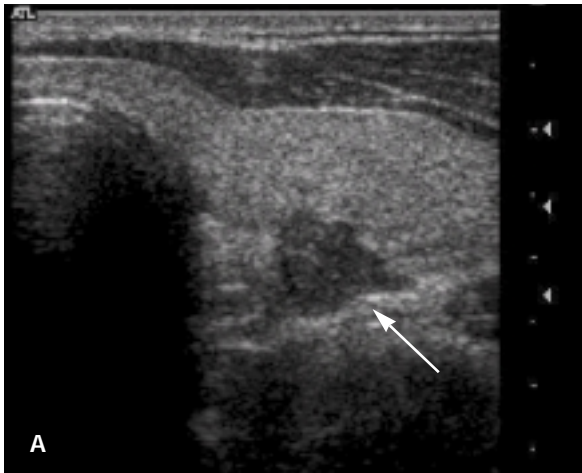
가

가

(TSH suppression therapy ;)

70%

(20, 30, 31).



A) :
B) : (RLN : recurrent laryngeal nerve,)

1.

(30, 35).

3. - (laryngotraheal)

가 (en bloc resection) (cricothyroid membrane)

, 가 가
(per-
manent tracheostomy) 가 (17, 36).

가 (intraoperative
thyroplasty) 가 가
가 .

(aspiration)

(loco - regional control)

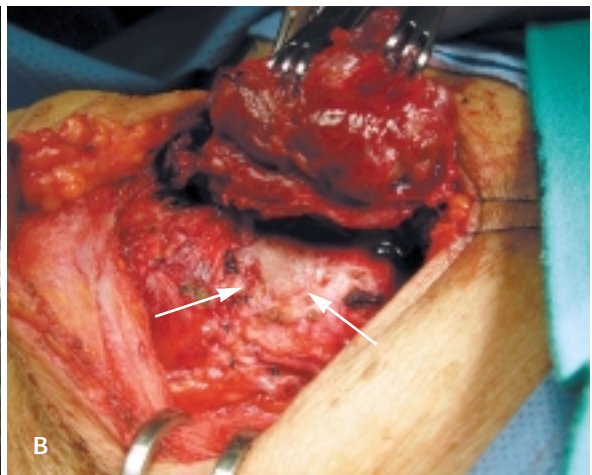
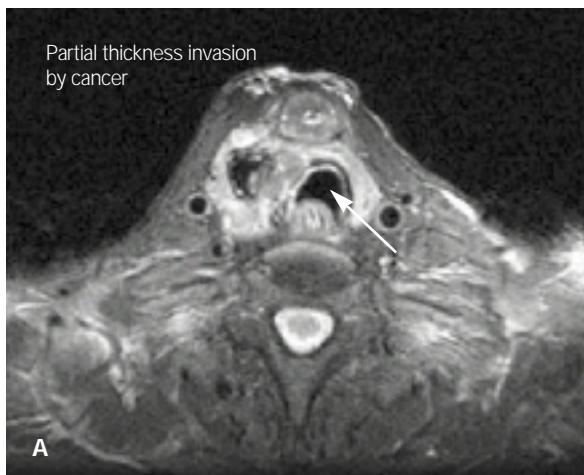
, 가 ,
가 ,

(21, 30, 35).

17, 20, 36),

가 (14,

,



A) : (pericondrium)

B)

2.

(shaving - off procedure)

, (total laryngectomy), (pharyngectomy), (tracheal resection)
(4, 5, 11, 16).

2) 가
(central compartment
node dissection)
가 가 .

가 가

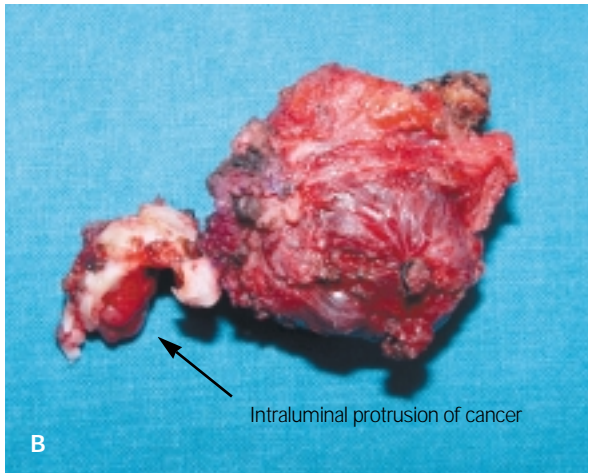
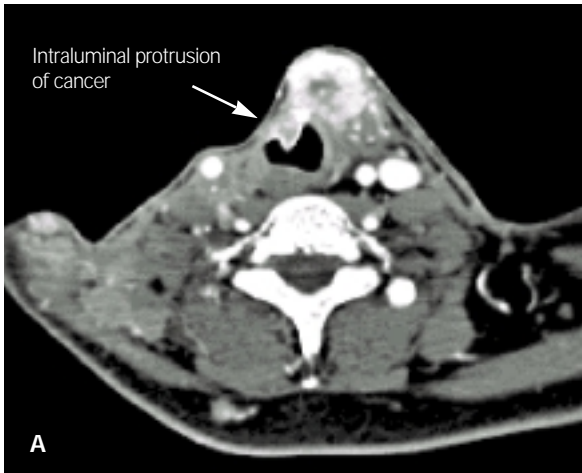
(2)(5).

1) 가
(longitudinal
extent) (laterality) , , (depth of invasion), , (level of invasion)

가
(17, 21).

가

(21).



A) : (cricoid cartilage)

B) : ,

3.

3)

(14, 16, 18, 21).

가

가

가

가 (3).

(20, 37). -

가

가

(1)

(window resection)

가

가

가

가

(5, 20, 37).

, -

가

가

1/3

, 가

가

(flap)

가

2.5cm

(2)

(longitudinal hemilaryngectomy)

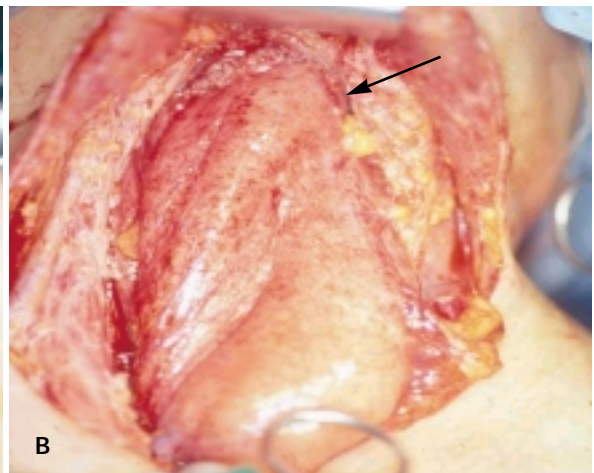
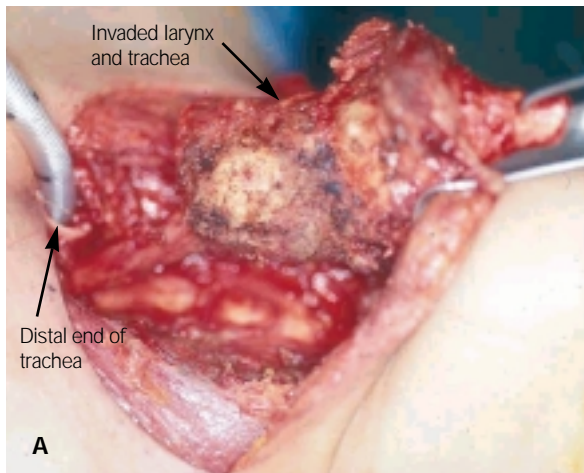
(thyroid

(long - term disease free survival)

cartilage),

(4, 16, 17, 38).

가



A)
B)

4.

(gastric pull - up procedure)

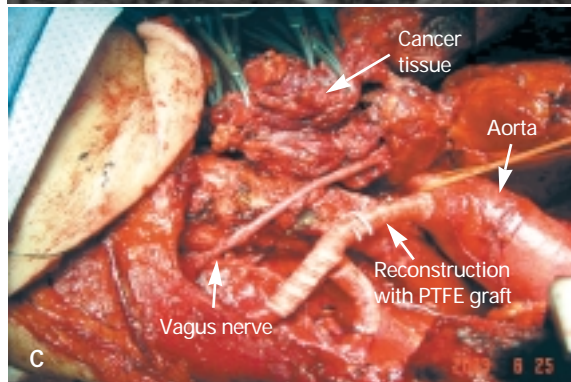
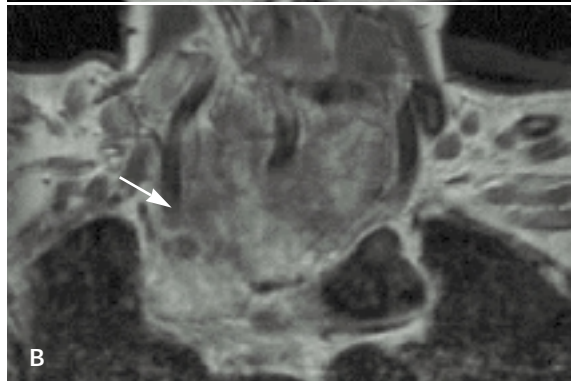
가 ,
(myocutaneous flap)
(3)
(circumferential or sleeve resection of trachea)
60%
6~7
(end - to - end anastomosis) 가
(tension
release)
가 . Mushot (39)
(endotracheal tube)
가
가
가
(sternotomy)
(mediastinal release)

가
(leakage),
(dehiscence) 가
가
(anterior chest)
(4)
(step resection of trachea or combined laryngo -
tracheal step resection)

(5)

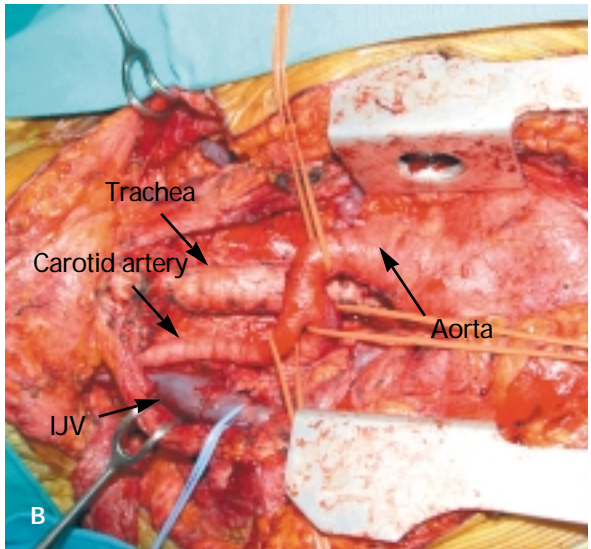
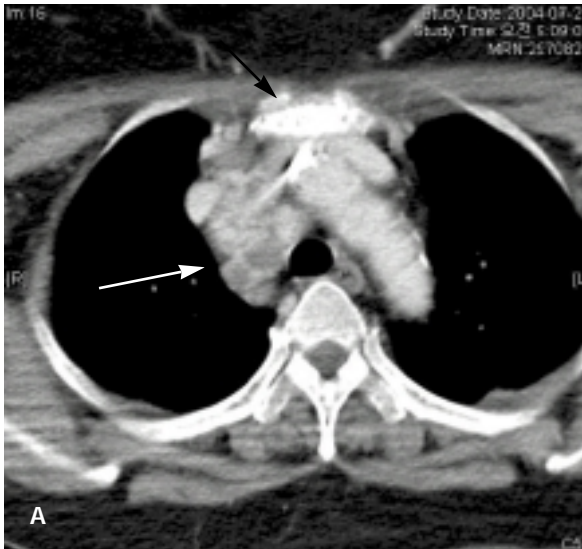
(suprahyoid release)

(mylohyoid muscle), (geniohyoid muscle), , (8, 20).
 (genioglossus muscle) (suprahyoid muscle) , CT, MRI, ,
 oid muscle) , 가 .
 가
 . (38, 39).
 (6) 가
 (total laryngectomy or total pharyngolaryngectomy) .
 .
 (4). (segmental resection) (partial
 가 . full - thickness resection) ,
 , (myofascial flap)
 가 (17, 21, 24, 41). 가
 가 (21). 가 가 (jejunal free flap)
 (expandable metallic stent) (gastric pull - up procedure)(4B),
 (40). (colonic interposition) (38).
 가 가
 4. (25).
 가 가
 . (21).
 5.
 .
 , 가 (42 ~ 47).
 가
 (17, 21). . 가
 , 가
 (17, 24, 39). 가



A) :
 B) :
 C) : , (radical dissection)
 (PTFE : polytetrafluoroethylene)
 5. : (branchiocephalic trunk),
 (carotid artery), (subclavian ar-
 tery) (PTFE graft)

(21, 42~47).
 (tumor
 thrombus) 가 ,
 가 (5, 8, 20, 24, 31, 44,
 47), (pulmonary embolism)
 가 .
 가
 가 .
 13% , (follicular can-
 cer) 가 ,
 (21, 44).
 CT, MRI가 ,
 (21).
 (circle of Willis)
 ,
 가 .
 , (great saphenous
 vein) 가 , 6
 (21).
 (31, 44, 47).
 가 , (cadavaric
 tissue), (prosthetic graft)



A) :
B) :

(IJV : internal jugular vein,)
(medial sternotomy)

6.

(21, 44, 47).

가 (18, 32).

(24, ,

37, 43). 가

가 .

(functional modified radical neck

가

dissection) , 가

(21, 42~47).

가

, 가

, MacFee (

) ,

(bypass shunt) (5).

Hockey stick (18, 21).

가

6.

(median sternotomy)

가

, 가 2cm (6)(16, 21).

가

가

가 (18, 20, 21).

가

(30, 35),

가

가

가

가

45

가

가

(35, 49, 50).

가

가

, doxoru-

bicin

가

가

methyl trans-

ferase inhibitors, histon deacetylase inhibitors,
PPAR agnoist , (antineo-
plastic effect) (re-
differentiation)

가

(51).

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