

# 2021 ATA<sup>®</sup> Guidelines for Management of Patients with Anaplastic Thyroid Cancer

## **Radiotherapy and Systemic Chemotherapy in Loco-regionally confined stages IVA and IVB**

# Approach towards Radiotherapy and Systemic Chemotherapy in Loco-regionally confined stages IVA and IVB

- Goal: To limit the threat from residual macro- or microscopic ATC in the neck for terminal airway and/or esophageal compromise
- Radiotherapy is provided after surgery or if unresectable
- Based on patient centered goals
  - Palliative
  - Potentially curative
- Different approaches
  - Locoregional: most commonly radiotherapy +/- chemotherapy
  - Systemic: conventional chemotherapy; also targeted therapies to specific somatic mutations, eg BRAFV600E

# Radiotherapy after complete/near-complete (R0 or R1) resection

- Following R0 or R1 resection, we recommend that good performance status patients with no evidence of metastatic disease who wish an aggressive approach should be offered standard fractionation **Intensity-modulated radiation therapy (IMRT) with concurrent systemic therapy** (R.14)
- Radiation therapy should begin no later than 6 weeks after surgery (GPS 8)
- Patient goals of care, medical and psychosocial fitness for therapy, **potential toxicities**, financial considerations, and robustness of social support must be prominently considered in the decision to proceed with aggressive **multimodal therapy** (GPS 9)
- Cytotoxic chemotherapy can be initiated within one week of surgery, providing sufficient healing, in anticipation of subsequent chemoradiation (GPS 10)

# Radiotherapy for Poor Performance Status

- In patients of **poor performance status**, palliative or preventative (no residual disease present) locoregional radiotherapy over high dose radiotherapy is suggested (GPS 11)

# Radiotherapy and/or chemotherapy in patients with unresectable or gross residual locoregionally-confined disease

- We recommend that patients who have undergone R2 resection or have unresectable but non-metastatic disease with **good performance status** and who wish an aggressive approach be offered standard fractionation **IMRT with systemic therapy**. Alternatively, in *BRAF* V600E mutated ATC, combined **BRAF/MEK inhibitors** can be considered in this context (R.15)
  - *BRAF* V600E mutation status to guide therapy is a change from previous guidelines
- In patients with unresectable disease during initial evaluation in whom radiotherapy and/or systemic (chemotherapy or combined BRAF/MEK inhibitors) therapy renders the tumor potentially resectable, we recommend re-consideration of surgical resection (R.16)

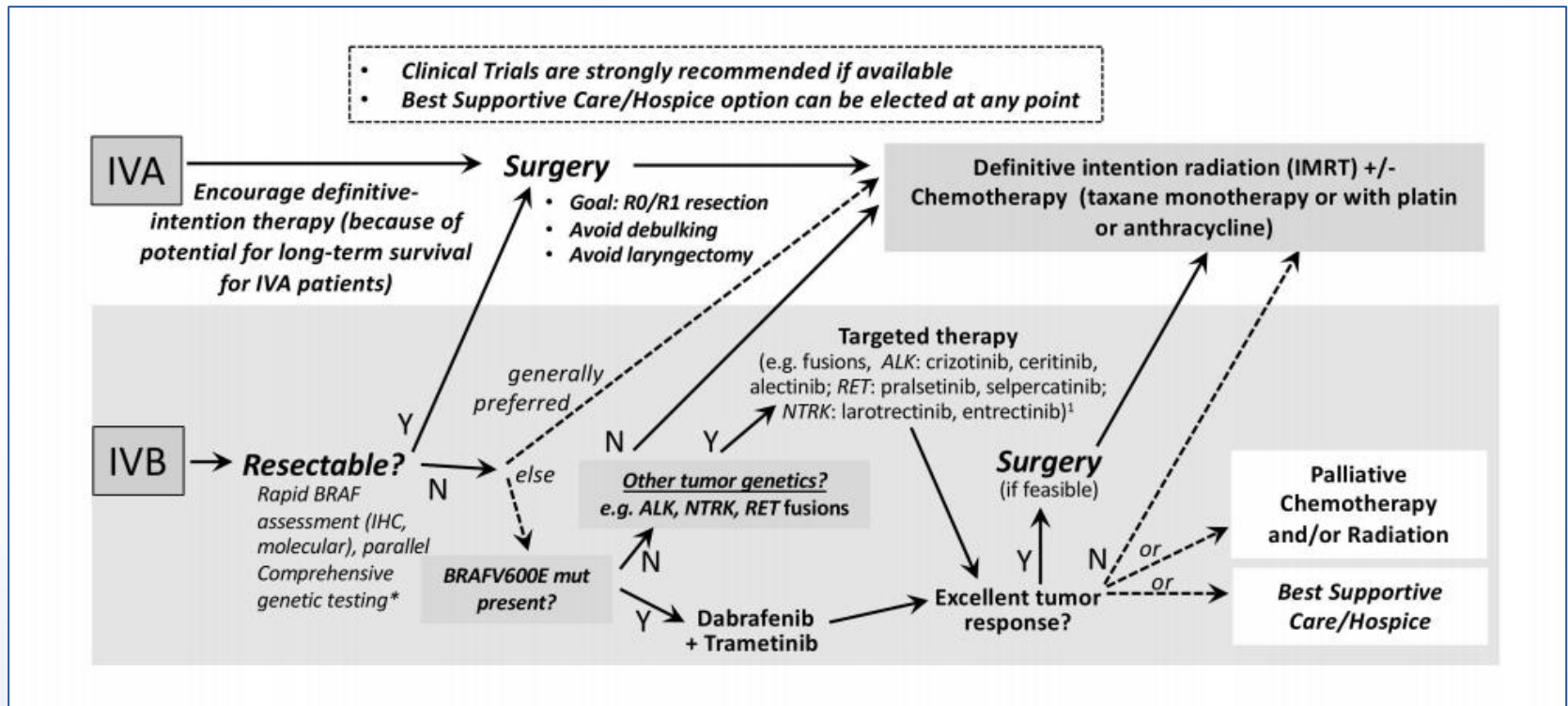
# Radiotherapy treatment volume and techniques

- Among patients who are to receive radiotherapy for unresectable thyroid cancer or in the postoperative setting, **intensity modulated radiotherapy (IMRT)** is recommended (R.17)
  - IMRT provides optimal balance of benefit versus potential toxicity
  - Acute toxicity: skin erythema, moist desquamation, mucositis of the esophagus, trachea, and larynx, and xerostomia
  - Late toxicity: skin telangiectasias, skin pigmentation, soft tissue fibrosis, and mild lymphedema, esophageal stenosis

# Role of chemotherapy combined with radiotherapy as neo/adjuvant therapy in locoregionally-confined (Stages IVA or IVB) ATC

- The use of **cytotoxic chemotherapy** involving a taxane (paclitaxel or docetaxel), administered with or without anthracyclines (doxorubicin) or platinum (cisplatin or carboplatin), is recommended in patients treated with **definitive-intention radiation** (R.18)

# Management of stage IVA and IVB disease



**Initial therapy**

**Follow-up**



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