Thyroid Cancer Reference Handout

Thyroid Carcinoma: Dx

1. Follicular Carcinoma
Follicular cells produce thyroid hormone

Differentiated Thyroid Carcinoma (90%)
- Papillary
- Follicular
- Hurthle

Anaplastic Thyroid Carcinoma (1%)

2. Parafollicular Carcinoma
Parafollicular cells produce calcitonin

Medullary Thyroid Carcinoma (5-10%)
- Sporadic
- Familial

Work Up:

Imaging
Iodine-123 or technetium-99 scan
PET scan

Labs
TSH, T3/T4, Thyroglobulin, Calcium

Thyroid Carcinoma: Tx

Differentiated Thyroid Cancer

Trimodal Therapy

1. Surgery

2. RAI (Radioactive Iodine)

3. TSH Suppression (Levothyroxine)

Post-Op Monitoring:

Thyroglobulin/TG antibodies
TSH
PRN neck ultrasound

RAI refractory or metastatic:

- Targeted therapy
  - BRAF → Dabrafenib, vemurafenib
  - NTRK → Larotrectinib, entrectinib
  - RET → Selpercatinib
  - ALK → Crizotinib, ceritinib, entrectinib
- Consider repeat RAI (can re-sensitize)
- TKIs: Sorafenib, Lenvatinib
- NO role for chemotherapy

Medullary Thyroid Cancer

Pathogenesis
RET mutations common in familial
Associated with MEN 2A/2B

Monitoring
Calcitonin (produced by parafollicular cells)

Local treatment = Resection

Systemic Treatment =

Non-RET mutated → vandetanib, cabozantinib
RET mutated → selpercatinib, pralsetinib

Anaplastic Thyroid Cancer

Pathogenesis
BRAF mutations common

Prognosis
Worse prognosis

Local Treatment = Often Unresectable

Systemic Treatment =

Non-BRAF mutated → Chemo + RT
BRAF mutated → dabrafenib (BRAF) + trametinib (MEK)

Thymoma & Thymic Carcinoma

Thymus Gland Tumors
Most common anterior mediastinal cancer in adults

Associated with myasthenia gravis
Associated with RBC aplasia

Localized Treatment: Resectable

Surgical Resection

R1+ Margins
Thymoma → RT
Thymic Carcinoma → ChemoRT

Advanced Treatment: Unresectable

ChemoRT

Thymoma
cisplatin/doxorubicin/cyclophosphamide +/- RT
* Or neoadjuvant chemo → surgery → chemo +/- RT

Thymic Carcinoma
carboplatin/taxol +/- RT