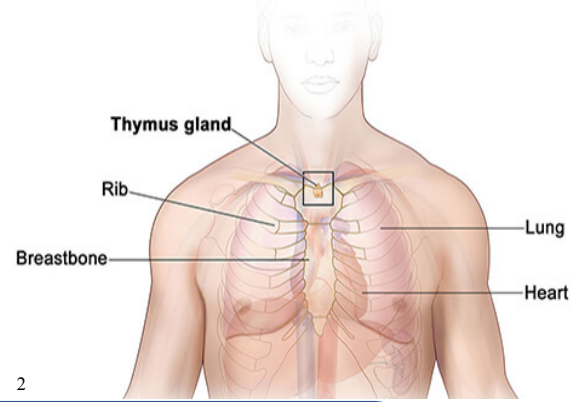


Thymic Cancer

PHYT 798: Shelby Miller



Background Information:

- Rare epithelial tumors of the thymus¹
- Malignant cells form on the outside surface of the thymus²
- Part of the lymph system²
- Grows quickly and often spreads to other parts of the body³

Description:

- Invasive and detected by chance on chest x-ray in 50% of patients¹
- Most likely advanced and has spread upon diagnosis, making it hard to treat³
- 5-year survival of 30-50%³
- 90% occur in the anterior mediastinum¹
- Metastasizes to: regional lymph nodes, bone, liver, lungs¹

Incidence/Prevalence of Condition:

- Who: 40-60 years old¹; most common in those in their 70s⁴
- How often: overall incidence of 0.15 cases per 100,000¹
- How many: 0.2-1.5% of all malignancies, 0.06% of all thymic neoplasms¹

Risk Factors:

- Non-modifiable: age (increased risk with increased age)⁴, ethnicity (in the US, most common in Asians and Pacific Islanders, least common in Whites and Latinos)⁴
- Modifiable: unknown because little known about causes⁴

Key Signs and Symptoms:

- Cough that doesn't go away²
- Chest pain²
- Trouble breathing/shortness of breath^{2,3}
- Signs of upper airway congestion¹
- Phrenic nerve palsy (due to direct compression or invasion of the tumor)³
- Superior vena cava syndrome¹
- Non-specific: malaise, weight loss, fatigue, fever, anorexia³

Clinical Tests and Screening:

- Shoulder Special Tests for ruling out
- Physical exam and history²
- Chest X-ray²
- CT scan²
- MRI²
- PET scan²
- Biopsy²

Treatment:

- **Surgery needed:** surgical resection with en bloc resection for invasive tumors¹
- Purpose: surgery needed to remove the tumor¹
- Other treatment options:
 - Radiation therapy: as adjuvant therapy post-surgery to prevent recurrence²
 - Chemotherapy: as neoadjuvant therapy pre-surgery to shrink the tumor²
 - Hormone therapy or New Clinical Trials²

Role of PT: recognition of referred shoulder pain of thymic cancer due to phrenic nerve involvement

- Shoulder pain differential diagnosis:³
 - Rotator cuff injury, adhesive capsulitis, shoulder instability, arthritis, **referred pain**
- Referred shoulder pain differential diagnosis:³
 - Cervical spondylolysis, cervical arthritis, cervical disc disease, myocardial ischemia, diaphragmatic irritation, reflex sympathetic dystrophy, thoracic outlet syndrome, gallbladder disease, **phrenic nerve involvement or invasion by tumor (diaphragm, mediastinum, some abdominal structures)**, pain pattern of C5-6 level in cervical discography, pain pattern from C5-6 zygapophyseal joint, myofascial pain syndrome and referred pain of trigger points in supraspinatus/infraspinatus/lower trapezius muscles

***Physician referral needed ASAP:** further testing needed (chest X-ray, CT scan) to diagnose and treat likely advanced cancer³; contact physician immediately to schedule patient appointment ASAP*

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References:

1. Thymoma and Thymic Carcinoma Treatment (PDQ®)–Health Professional Version. National Cancer Institute website. <https://www.cancer.gov/types/thymoma/hp/thymoma-treatment-pdq>. Updated February 9, 2018. Accessed January 14, 2019.
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3. Dee S-W, Kao M-J, Hong C-Z, Chou L-W, Lew HL. Chronic shoulder pain referred from thymic carcinoma: a case report and review of literature. *Neuropsychiatr. Dis. Treat.* 2012;8:399-403. doi:10.2147/NDT.S36476.
4. About Thymus Cancer. American Cancer Society website. <https://www.cancer.org/cancer/thymus-cancer/about.html>. Updated October 4, 2017. Accessed January 14, 2019.

***Physician referral needed ASAP:** further testing needed (chest X-ray, CT scan) to diagnose and treat likely advanced cancer³; contact physician immediately to schedule patient appointment ASAP*