“Suspicious Thyroid Nodule”
Lobectomy: The Rational Choice

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Outline

- FNA
  - “Suspicious” Nodules
- Thyroid Lobectomy vs Near-Total Thyroidectomy
  - Surgical Risks
- Completion Thyroidectomy: Increased surgical risks?
FNA

- Adequacy
  - Several groups of at least 12 cells
  - Abundant colloid
  - Usually needs at least 3 passes

- Diagnosis
  1. Positive for malignancy
  2. Suspicious for malignancy
  3. Follicular Neoplasia
  4. Benign
  5. Inadequate

- #2-#3= 5-20%

“Suspicious” Nodules

- Follicular Neoplasia and Hürthle cell - No specific cytological feature to differentiate between benign and malignant
  - Capsular or Vascular invasion
  - Need for histopathological diagnosis
- Rago, et al (Clin Endocr. 2007), studied 505 patients
  - 426 Follicular, 79 Hürthle
- Atypia, spot microcalifications increased risk for malignancy
Incidence and Type of Malignancy in “Suspicious” Nodules

- 21% of nodules were malignant
- 27% of Follicular
- 11% of Hürthle
- 104/125 of malignancies were papillary

Risk Stratification of Malignancies

- **AMES, AGES**
  - **Low Risk**
    - Younger (<40 male, <50 female) patients with intrathyroidal cancer
    - Older patients with intrathyroidal cancer, tumor size <5cm
  - **High Risk**
    - Younger patients with extrathyroidal extension
    - Older patients with tumors >5cm, extrathyroidal extension, or intrathyroidal follicular cancer
    - Any patient with metastatic lesions
Thyroid Lobectomy vs Near-Total Thyroidectomy

- Historically, around 80% of thyroid operations for suspicious lesions are TT or NTT
- 20% TL
- No correlation among low- vs high-risk patients
- Younger patients more likely to undergo TT.
- No survival benefit for low-risk groups
Risks of Bilateral Procedures

- Rosato, et al, studied 14,934 patients over 5 years
- 20.9% TL
- 79.1% split: TT(64.3), MRST(9.7), BRST(5.1)
- RLN injury: 2% transient, 1% permanent

Complications

Hypocalcemia

Wound infection and hemorrhage

Total Complications

Surgical Volume and Complications

- Lamadé, et al, studied 617 patients (442 bilat, 175 TL)
- 1059 RLNs at risk
- Three groups
  1. Experienced thyroid surgeons (2)
  2. Experienced surgeons (19)
  3. Surgical residents (24)

Dangers of Thyroid Supplimentation

- Near-total thyroidectomy can lead to patients requiring life long supplementation
- Risk of patients being lost to follow-up, or poor compliance
- Hypothyroidism - Weight gain, dyslipidemia, menorrhagia, myxedema, decreased libido, depression, hypertension, rare cardiomyopathy
- Hyperthyroidism - Hyperactivity, weight loss, sweating, palpatations and atrial fibrillation, diarrhea, oligomenorrhea, decreased libido, proximal weakness and myopathy
Completion Thyroidectomy

- Approx. 25% “suspicious” nodules are malignant
- Rafferty, M, et al. (*J Am Coll Surg*. 2007) studied 350 patients over 10 years (201 CT vs 149 TT)
- No increase in operative risks

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<thead>
<tr>
<th></th>
<th>CT</th>
<th>TT</th>
<th>p-value</th>
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<tbody>
<tr>
<td>RLN injury (temp)</td>
<td>2%</td>
<td>3.3%</td>
<td>0.51</td>
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<tr>
<td>RLN injury (perm)</td>
<td>0.5%</td>
<td>0%</td>
<td>&gt;0.9</td>
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<td>Mean Hospital Stay (d)</td>
<td>4.5</td>
<td>3.5</td>
<td>&lt;0.001</td>
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<tr>
<td>Temp hypoparathyroidism</td>
<td>7%</td>
<td>27%</td>
<td>&lt;0.006</td>
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<tr>
<td>Perm hypoparathyroidism</td>
<td>2.5%</td>
<td>3.3%</td>
<td>0.75</td>
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Is Completion Thyroidectomy Even Necessary?

- Most “suspicious” nodules turn out to be PTC
- Haigh, et al, reviewed 4400 low-risk and 1030 high-risk patients from SEER database with PTC
- 84% underwent TT, 16% TL
- No survival advantage based on extent of thyroidectomy

Conclusions

- Thyroid lobectomy can be seen as an appropriate, less aggressive approach to patients with “suspicious” nodules
- Reduced surgical risks, long term treatment not needed
- Completion thyroidectomy does not convey greater operative risks
- When the final diagnosis returns papillary thyroid cancer, further surgical intervention may not be needed
References


