Total Thyroidectomy for Multifocal Micropapillary Thyroid Cancer: Is it a safe and efficient approach?

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Total Thyroidectomy for Multifocal Micropapillary Thyroid Cancer

Introduction

• ↑ neck sonography - ↑ incidence WDPTC at earlier stages

• 37,000/yr new ca – 45% < 1cm

• Bilateral malignancy (35% to 85%)

• Transmutation into anaplastic forms

• Extent of resection debated for WDPTC
Introduction (2)

- ATA Guidelines 2009: TT for $\geq 1\text{cm}$

- TT ↓ recurrence ↑ survival in $\geq 1\text{cm}$ WDPTC; NCDB, 50K pts (Bilimoria et al, J. Surg, 2007)

- $< 1\text{cm}$ WDPTC: LN mets 20%, recurrence 7%, mortality 1%, multifocality 29%;

Introduction (3)

- Hemithyroidectomy avoids complications

- Unclear long-term prognostic advantages
  - young w/early WDPTC

- Actual observed clinical recurrence
  - 5 – 10 %
  - re-operation can salvage recurrence

- re-operative surgery assoc.w/↑morbidity/mortality
The fact that total thyroidectomy can be performed safely does not necessarily mean that it is indicated in all patients with thyroid cancer…”

“An operation not worth doing is not worth doing well”

Dr. Colin Thomas, 1982
Patients & Methods

• 516 consecutive thyroidectomies for thyroid cancers
  – (21 yrs): Single supervising surgeon – training program

• 269 primary confined to the presenting lobe

• Stratification
  – Age, Size, Gender, Ipsilateral Focality, Bilateral CA

• Morbidity/Mortality/Recurrence rates
Results

- Mean age – 49y (17 – 84); Gender – F (83%)
- Mean follow-up: 7.6 yrs (1 – 20 yrs) / 50% over 5 yrs
- LOS = 1.26 days
- Mortality = 0
- Morbidity
  - Permanent hypopara = 1
  - Temporary hypopara = 9
  - Nerve palsy = 0
  - Seroma aspiration = 1
Results (2)

- < 1cm: 88 (33%)
- ≥ 1cm: 181 (67%) – 63 (23%) 1 – 1.9cm
  - 87 (32%) 2 – 4cm
  - 31 (12%) > 4cm

- contralateral malignancy – 46% (125/269)
  - < 1cm – 33% (30/88)
  - ≥ 1cm – 52% (95/181) $p = 0.006$
Results (3)

• Unifocal
  - < 1 cm 25% (16/64) vs. ≥ 1 cm 51% (76/148)  $p = 0.005$

• ≥ 45yrs:
  - < 1 cm: 21% (7/34) vs. ≥ 1 cm: 60% (50/84)  $p = 0.0002$

• Increased to 76% (13/17) in < 1 cm when MULTIFOCAL & ≥ 45yrs – $p = 0.0002$
Impact of multifocality on the incidence of contralateral disease in patients ≥ 45 years

<table>
<thead>
<tr>
<th>Size of tumor</th>
<th>Presence of contralateral disease</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unifocal</td>
<td>Multifocal</td>
</tr>
<tr>
<td>&lt; 1cm</td>
<td>7/34</td>
<td>13/17</td>
</tr>
<tr>
<td>≥ 1cm</td>
<td>50/84</td>
<td>9/20</td>
</tr>
<tr>
<td>p value</td>
<td>0.0002</td>
<td>0.09 NS</td>
</tr>
</tbody>
</table>
Conclusion

• Our study confirms ↑ contralateral disease in sub-centimeter multifocal tumors

• Identify distinct subset w/ ↑ bilaterality in sub-centimeter multifocal and ≥ 45 yrs

• TT accomplished safely in surgical training program for early WDPTC, avoid ↑ risks of recurrence reoperation

• TT done well may be:
  “well worth doing and doing more often”