CHIRURGIA CONSERVATIVA PER IL CARCINOMA TIROIDEO. PERCHÉ? E PERCHÉ NO? MA SOPRATTUTTO: QUANDO?

Moderatore: Paolo Limone (Torino)

16:45  Gli orientamenti attuali
       Enrico Papini (Albano Laziale)

17:15  Perché pensare ad una chirurgia conservativa di primo approccio
       Davide Giordano (Reggio Emilia)

17:45  Lavoro a piccoli gruppi
       I gruppi definiscano i criteri per pianificare sin dall’inizio una chirurgia conservativa per carcinoma tiroideo differenziato
       Tutor dei gruppi: Maurilio Deandrea (Torino), Lino Furlani (Negrar), Alessandro Piovesan (Torino)

19:00  Lavoro a piccoli gruppi
       Condivisione dei risultati e proposta operativa
       Michele Corradini Zini (Reggio Emilia)
The goals of initial therapy of DTC are:

1. To remove the primary tumor, disease that has extended beyond the thyroid capsule, and involved cervical lymph nodes.
2. To minimize treatment-related morbidity. The extent of surgery and the experience of the surgeon both play important roles in determining the risk of surgical complications.
3. To permit accurate staging of the disease.
AIMS of the TREATMENT
ATA 2009

4. To facilitate postoperative treatment with radioactive iodine, where appropriate. For patients undergoing RAI remnant ablation, or RAI treatment of residual or metastatic disease, removal of all normal thyroid tissue is an important element of initial surgery.

5. To permit accurate long-term surveillance for disease recurrence. Both RAI whole-body scanning (WBS) and measurement of serum Tg are affected by residual normal thyroid tissue.

6. To minimize the risk of disease recurrence and metastatic spread.
RECOMMENDATION 26

For patients with thyroid cancer >1 cm, the initial surgical procedure should be a near-total or total thyroidectomy unless there are contraindications to this surgery. Thyroid lobectomy alone may be sufficient treatment for small (<1 cm), low-risk, unifocal, intrathyroidal papillary carcinomas in the absence of prior head and neck irradiation or radiologically or clinically involved cervical nodal metastases. Recommendation rating: A
Apart from solitary well differentiated thyroid cancer
  • less than 1 cm in diameter
  • with no evidence for nodal or distant metastases
  • and no history of previous radiation exposure

that may be operated on by less than total thyroidectomy

the standard surgical treatment is total (or near-total) thyroidectomy.
<table>
<thead>
<tr>
<th>Preoperative or Intraoperative Decision-Making Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indications for total thyroidectomy (any present):</td>
</tr>
<tr>
<td>- Age &lt;15 y or &gt;45 y</td>
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<tr>
<td>- Known distant metastases</td>
</tr>
<tr>
<td>- Radiation history</td>
</tr>
<tr>
<td>- Extrathyroidal extension</td>
</tr>
<tr>
<td>- Bilateral nodularity</td>
</tr>
<tr>
<td>- Cervical lymph node</td>
</tr>
<tr>
<td>- Extrathyroidal extension</td>
</tr>
<tr>
<td>- Tumor &gt;4 cm in diameter</td>
</tr>
<tr>
<td>- Metastases</td>
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<tr>
<td>- Aggressive variant</td>
</tr>
</tbody>
</table>

**Initial Surgical Treatment for DTC**

NCCN 2013

- Michele Zini 2015

- Tumor < 4 cm in diameter
- No extra-thyroidal extension
- No aggressive variant
- No extrathyroidal metastases
- No cervical lymph node
- No prior radiation
- Age 15 y - 45 y
The initial treatment of DTC is total or near-total thyroidectomy whenever the diagnosis is made before surgery.

Less extensive surgical procedures may be accepted in the case of unifocal DTC diagnosed at final histology after surgery performed for benign thyroid disorders, provided that the tumor is:
- small
- intrathyroidal
- of a favorable histological type (classical papillary or follicular variant of papillary or minimally invasive follicular)
B) For patients with thyroid cancer >1 cm and <4 cm without extrathyroidal extension, and without clinical evidence of any lymph node metastases (cN0), the initial surgical procedure can be either a bilateral procedure (near-total or total thyroidectomy) or a unilateral procedure (lobectomy). Thyroid lobectomy alone may be sufficient initial treatment for low risk papillary and follicular carcinomas (Strong Recommendation, Moderate-quality evidence)
C) If surgery is chosen for patients with thyroid cancer <1 cm without extrathyroidal extension and cN0, the initial surgical procedure should be a thyroid lobectomy unless there are clear indications to remove the contralateral lobe. Thyroid lobectomy alone is sufficient treatment for small, unifocal, intrathyroidal carcinomas in the absence of prior head and neck irradiation, familial thyroid carcinoma, or clinically detectable cervical nodal metastases.
<table>
<thead>
<tr>
<th></th>
<th>Lesione Ricorrenziale</th>
<th>Lesione Paratiroidea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiroidectomia Totale</td>
<td>0.5%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Lobectomia Tiroidea</td>
<td>0.2%</td>
<td>0%</td>
</tr>
<tr>
<td>Low-risk patients:</td>
<td>Intermediate-risk patients:</td>
<td>High-risk patients:</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------</td>
<td>--------------------</td>
</tr>
</tbody>
</table>
| • no local or distant metastases AND  
• all macroscopic tumor has been resected AND  
• there is no tumor invasion of locoregional tissues or structures AND  
• the tumor does not have aggressive histology or vascular invasion AND  
• there is no 131I uptake outside the thyroid bed | • microscopic invasion of tumor into the perithyroidal soft tissues at initial surgery OR  
• cervical lymph node metastases or 131I uptake outside the thyroid bed on the RxWBS done after thyroid remnant ablation OR  
• tumor with aggressive histology or vascular invasion | • macroscopic tumor invasion; OR  
• incomplete tumor resection OR  
• distant metastases OR  
• thyroglobulinemia out of proportion to what is seen on the posttreatment scan |
Definition of risk in DTC: operational settings

1. Pre-surgical setting
   Patient-related factors: Age/sex – clinical history
   Tumor-related factors: US and cytological findings

2. Post surgical setting
   Tumor-related factors: Histological findings
   Thyroglobulin levels
   Negative US imaging

3. Post $^{131}$I ablative setting
   Thyroglobulin levels
   WBS and other imaging studies
Pre-surgical lymph node assessment in DTC: false negative US results

<table>
<thead>
<tr>
<th>Site of FN US</th>
<th>DTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>All pts</td>
<td>151</td>
</tr>
<tr>
<td>FN US</td>
<td>47</td>
</tr>
<tr>
<td>Central</td>
<td>43</td>
</tr>
<tr>
<td>Ipsilateral</td>
<td>5</td>
</tr>
<tr>
<td>Controlateral</td>
<td>3</td>
</tr>
</tbody>
</table>

US sensitivity in detecting central compartment lymph node metastases = 52%
Pitfalls in the pre-surgical prognostic assessment

• US cannot reliably detect extracapsular extension
• **US/FNA cannot reliably detect multifocality**
• US cannot reliably detect metastatic lymph nodes in the central compartment
• Cytological examination cannot identify more aggressive DTC variants
<table>
<thead>
<tr>
<th>FATTORI LEGATI AL PAZIENTE</th>
<th>IDENTIFICABILE IN FASE PRECHIRURGICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Età</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Sesso</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Familiarità per neoplasia tiroidea</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Pregressa radioterapia sul collo</td>
<td>SEMPRE  X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FATTORI LEGATI AL TUMORE</th>
<th>IDENTIFICABILE IN FASE PRECHIRURGICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensioni</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Multifocalità</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Bilateralità</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Variante istologica</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>aggressiva</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Metastasi infiammatorie</td>
<td>SEMPRE  X</td>
</tr>
<tr>
<td>Estensione extratiroidea</td>
<td>SEMPRE  X</td>
</tr>
</tbody>
</table>
Papillary thyroid carcinoma: histological variety and prognosis

<table>
<thead>
<tr>
<th>Histologic variant</th>
<th>Tumor disease mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-differentiated</td>
<td>3.8</td>
</tr>
<tr>
<td>Follicular</td>
<td>4.4</td>
</tr>
<tr>
<td>Diffuse sclerosis</td>
<td>-</td>
</tr>
<tr>
<td>Solid</td>
<td>66.7</td>
</tr>
<tr>
<td>Tall cell</td>
<td>55.6</td>
</tr>
<tr>
<td>Poorly differentiated</td>
<td>83.3</td>
</tr>
</tbody>
</table>

Ortiz Sebastian et al., Arch Surgery, 2000
Carcinomi Papillari: Multifocalità – Bilateralità

Thyroid Unit Reggio Emilia

- Monofocali: 330; 14%
- Multifocali: 422; 18%
- Bilaterali: 1605; 68%

Michele Zini 2015
Relationships between tumor and thyroid capsule were classified according to the degree of capsular abutment using the following 5-point scale (from 0 to 4):

0: 0% of tumor abuts thyroid capsule;
1: 1–25%;
2: 26–50%;
3: 51–75%;
4: 76–100%

Higher scores reflect a higher possibility of extrathyroidal invasion.
ESTENSIONE EXTRATIROIDEA: VALUTAZIONE ECOGRAFICA
Park JS et al., AJR 192: 66-72, 2009

“uT1”

“uT2”

“uT3”
Proposta operativa
Sarà proposta la lobectomia tiroidea ad un paziente con diagnosi preoperatoria di carcinoma tiroideo papillare quando si verificano tutte le seguenti condizioni:

- diametro del tumore < 1 cm.
- assenza di lesioni nodulari del lobo controlaterale
- non evidenza ecografica di metastasi linfatiche (stadi azione ecografica N0)
- assenza di sospetto ecografico di estensione extracapsulare (assieme alla prima condizione, ciò configura la stadiazione ecografica T1a)
- assenza di pregressa terapia radiante in regione cervicale.
- non evidenza di metastasi a distanza
Non vengono considerati: età, sesso, stato mutazione BRAF, famigliarità.

Nel caso l’esame istologico definitivo rilevi presenza di metastasi linfatiche, varianti istologiche aggressive o estensione extracapsulare si considererà la totalizzazione di tiroidectomia con la successiva terapia adiuvante/ablativa con radioiodio.

In caso di multifocalità, la decisione sarà assunta di volta in volta.
**PROPOSTA OPERATIVA THYROID UNIT REGGIO EMILIA**

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**PRESUNTO BASSO RISCHIO PREOPERATORIO**
- <1 cm. unifocale ed intratiroideo
- Regolare ecostruttura lobo controlaterale
- Non pregressa irradiazione cervicale
- cN0

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**- Tiroideectomia totale**
- Linfadenectomia pre-paratracheale ipsilaterale

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**- Sospetta plurifocalità, sconfinamento capsulare**
- Nodularità lobo controlaterale
- Pregressa irradiazione cervicale
- cN+

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**- LOBECTOMIA TIROIDEA**
- LINFOADENECTOMIA PRE-PARATRACHEALE IPSILATERALE

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**pN0**

- Estemporaneo su linfadenectomia
- pN0

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**Istologia definitiva**

- Basso rischio
- Medio/Alto rischio

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**Contestuale linfadenectomia paratracheale controlaterale**

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**pN+**

- Contestuale completamento tiroideo e linfonodale
- Medio/Alto rischio

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**Eventuale RAI**

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**Follow up**

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**Complettamento T (/ N) differito**

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