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| --- | --- | --- | --- |
| **Table S1.** A comparison between different scoring systems applied in included studies1[20],2[22],8[23] | | | |
|  | **AJCC/UICC TNM** | **AMES** | **ATA** |
| **Histology** | All | DTC | PTC/FTC |
| **Grade** | no | no | no |
| **Age** (years) | <45 | <41 M  <51 F | no |
| **Gender** | no | yes | no |
| **Size** (cm) | ≤1  1-4  >4 | <5  ≥5 | noa |
| **ETE** | yes | yes | yes |
| **Residual disease** | no | no | yes |
| **Lymph node** | yes | no | yes |
| **Multifocality** | no | no | yes |
| **Metastasis** | yes | yes | yes |
| ETE: extrathyroidal extension, DTC: differentiated thyroid cancer, PTC: papillary thyroid cancer, FTC: follicular thyroid cancer, M: male, F: female  aNo specific tumor size (intrathyroid tumor) | | | |

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| --- | --- | --- | --- | --- | --- |
| **Table S2.** Comparison between 3rd, 6th, 7th and 8th Editions of AJCC/TNM staging of differentiated thyroid cancer3[23], [24], [25] | | | | | |
|  | **Stage** | **3rd Edition** | **6th Edition** | **7th Edition** | **8th Edition** |
| **Younger patients** |  | **<45 years** | | | **<55 years** |
| **I** | Any T, Any N, M0  Regardless of ETE | Any T, Any N, M0  Regardless of ETE | Any T, Any N, M0  Regardless of ETE | Any T, Any N, M0  Regardless of ETE |
| **II** | Any T, Any N, M1 | Any T, Any N, M1 | Any T, Any N, M1 | Any T, Any N, M1 |
| **Older patients** |  | **≥45 years** | | | **≥55 years** |
| **I** | T1 N0 M0  ≤1 cm tumor  Confined to the thyroid | T1 N0 M0  ≤ 2 cm tumor  Confined to the thyroid | T1 N0 M0  ≤ 2 cm tumor  Confined to the thyroid | T1-2 N0/Nx M0  ≤4 cm tumor  Confined to the thyroid |
| **II** | T2-3 N0 M0  1-4/>4 cm tumor  Confined to the thyroid | T2 N0 M0  2-4 cm tumor  Confined to the thyroid | T2 N0 M0  2-4 cm tumor  Confined to the thyroid | T1-2 N1a/N1b M0  ≤4 cm tumor  Confined to the thyroid    Or >4 cm tumor  T3a N0/Nx/N1a/N1b M0  Confined to the thyroid  Or Any T, Any N, M0  Gross ETE into strap muscles |
| **III** | T4 N0 M0  Any T, N1, M0  Any size beyond the thyroid capsule,  Or regional lymph node metastasis | T3 N0 M0  T1-3 N1a M0  >4 cm tumor,  Or minimal ETE,  Or level VI lymph  node metastasis | T3 N0 M0  T1-3 N1a M0  >4 cm tumor,  Or minimal ETE,  Or level VI lymph node metastasis | Any T, Any N, M0  Gross ETE into Subcutaneous, larynx, trachea, esophagus,  recurrent laryngeal  nerve |
| **IV** | Any T, Any N0, M1 | T4a N0-1 M0  T4b N0 M0  Any T N1b M0  Gross ETE or lateral neck lymph node metastasis,  Any T, Any N0, M1 | T4a N0-1 M0  Any T N1b M0  Gross ETE  Or lateral neck lymph node metastasis,  Any T, Any N0, M1 | **IVA:** Any T, Any N, M0  Gross ETE into prevertebral fascia, encasing major vessels    **IVB:** Any T, Any N, M1 |
| T: tumor, N: Node, M: metastasis, ETE: extrathyroidal extension | | | | | |

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