

IMPACT OF RISK STRATIFICATION IN THE MANAGEMENT OF DIFFERENTIATED THYROID CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OUTCOMES

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Background/Purpose: Despite validated risk stratification systems for differentiated thyroid cancer(DTC) the extent of intervention in low risk disease remains variable. No trial has addressed the impact of risk-stratified(RS), compared with non-risk-stratified(NRS) approaches. The peri-operative/safety, disease-control and survival outcomes of RS, compared to NRS management in DTC were compared through systematic review and meta-analysis of the literature.

Methods: A tool was developed to enable objective, reproducible assignment of RS/NRS, accounting for the combination of extent of thyroidectomy, nodal surgery, radioiodine, and study populations. Accurate RS/NRS category assignment of any study was essential inclusion criterion; other criteria included primary management among DTC only, with relevant outcomes data. Due to data complexity, only English language reports were retrieved, from MEDLINE and EMBASE 1970-2012. Risk of bias was assessed using a specific, validated tool for case series.

Results: 76 datasets were identified, with no randomised trials nor prospective comparative series. Patients, disease and practice were described and compared, confirming significant variation in practice. Weighted mean effect sizes were calculated and compared for RS/NRS cohorts' outcomes. Sensitivity analysis was performed around population and practice items. Broad equivalence was demonstrated across safety, disease-control and survival outcomes for RS/NRS approaches, with trends for better safety and disease-control outcomes in RS.

Discussion & Conclusion: Lack of time-specific data and variations in definitions (interventions and outcomes) were significant limiting factors in analysis. Systematic methodology allowed robust comparison of approaches, confirming equivalence for rationalised, risk-stratified management of DTC - indicative of need to avoid over-treatment.