VRAAG 4A: LOW VS. HIGH-DOSE I131

Primaire studies

Study ID	Method	Patient characteristics	Intervention(s)	Results primary outcome	Critical appraisal of study quality
Mallick U 2012	• RCT • Funding/CoI: grants from Cancer Research UK (C18243/A5802) and University College London and the University College London Hospital Comprehensive Biomedical Research Centre; CoI disclosed • Setting: multicentre (N=26), UK • Sample size: N=438 • Duration: inclusion 1/2007-7/2010, median follow-up 13 months	• Eligibility criteria: 16-80y, PS 0-2, histological confirmation of DTC (including Hürthle cell carcinoma) requiring radioiodine ablation, T1-3, no microscopic residual disease, N0-x-1, M0, one- or two-stage total thyroidectomy, with or without central LND • *A priori* patient characteristics: T3 23% • Group comparability: ○ Median age: rTSH, low-dose: 44y; rTSH, high-dose: 44y; T4-withdrawal, low-dose: 45y; T4-withdrawal, high-dose: 43y ○ TT: 42% vs. 31%, 28%, 45% ○ Completion thyroidectomy: 56% vs. 66% vs. 68% vs. 53%	rTSH stimulation, low-dose I131 (N=110): 1100 MBq vs. rTSH stimulation, high-dose I131 (N=109): 3700 MBq vs. T4-withdrawal, low-dose I131 (N=110): 1100 MBq vs. T4-withdrawal, high-dose I131 (N=109): 3700 MBq Radioiodine ablation was recommended 1 to 6 months after surgery	Low vs. high-dose: • Ablation success (both criteria): 85.0% vs. 88.9%, RD = -3.8 (95%CI -10.2 to 2.6; p=0.24) ○ Negative WBS alone: RD = -2.7 ○ T3: 80.9% vs. 81.6%, RD = -0.7 (95%CI -16.4 to 14.8) ○ N1: 86.7% vs. 81.8%, RD = 4.9 (95%CI -13.1 to 2.3) • Subsequent second dose: 9.5% vs. 4.1%; p=0.02 • Recurrence: 3 vs. 3	Level of evidence: B • Central randomization, stratified according to centre, tumour stage, nodal stage • Blinding not reported • 17 patients were excluded from each comparison because of no diagnostic scanning nor Tg testing • Definition of ablation success: negative WBS (<0.1% uptake on the basis of the region-of-interest method drawn over the thyroid bed) and stimulated Tg level of <2.0 ng/ml at 6 to 9 months
Bal C 2012	• RCT • Funding/CoI: Senior Research Fellowship from India Council of Medical Research, Government of India; no CoI declared • Setting: single centre, India • Sample size: N=422 • Duration: inclusion 1/2001-12/2006	• Eligibility criteria: patients with DTC (no Hürthle cell carcinoma) confirmed to be limited only to the thyroid bed by clinical, radiological, peroperative and postsurgical I131 scintigraphic examination and having no evidence of extra thyroidal or distant metastases at the time of I131 treatment, T1-3, TT or NTT • *A priori* patient characteristics: median age 35y; female 76%; TT 64% • Group comparability: no significant differences	Low-dose I131: 25 mCi (N=172) vs. Low-dose I131: 50 mCi (N=166) vs. High-dose I131: 100 mCi (N=84) Mean interval between surgery and I131: 5.14 months	• Ablation success: ○ All: 81.5% vs. 84.9% vs. 88.5%, p=0.364 ○ Papillary: 81.7% vs. 85.5% vs. 88.1%, p=0.446 ○ Follicular: 80.8% vs. 81.0% vs. 90.9%, p= 0.729 • Equivalence test: no difference in any pair of comparison	Level of evidence: B • Randomization stratified by histology; random number table • Blinding not reported • 10 patients lost-to-follow-up and excluded from analysis • Definition of ablation success: major criterion = negative WBS, minor criteria = 48h RAIU ≤0.2% and stimulated Tg ≤10 ng/ml at 6 months
Bal C 1996	• RCT • Funding/CoI: not reported • Setting: single centre, India • Sample size: N=155 • Duration: inclusion	• Eligibility criteria: patients with thyroid cancer and scintigraphic evidence of residual functioning tissue in thyroid region and no evidence of extrathyroidal or distant metastases at the time	Low-dose I131: 25-35 mCi (N=27) vs. Low-dose I131: 35-64 mCi (N=54)	• Ablation success: 63% vs. 77.8% vs. 73.7% vs. 76.7%, no p-values provided	Level of evidence: B • Simple randomization with sequentially numbered sealed envelopes • Blinding not reported • 6 patients with nodal and

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	1/1990-12/1993, mean follow-up 3.8y	of presentation • *A priori* patient characteristics: mean age 39y, female 70%, NTT 82%; papillary: 58%; 27 patients had subtotal or hemithyroidectomy • Group comparability: apparent differences in type of surgery, but no p-values reported	vs. High-dose I131: 65-119 mCi (N=38) vs. High-dose I131: 120-200 mCi (N=30)		pulmonary metastases on post-therapy scan were excluded • Definition of ablation success: absence of any detectable radioiodine concentrating tissue on neck and whole body scan at 6-12 months. Uptake ≤0.2% at 48 hours and Tg values of <10 ng/mL off LT4 were additional criteria to enhance sensitivity and specificity
Caglar M 2012	• RCT? • Funding/CoI: no Coi declared • Setting: single centre, Turkey • Sample size: N=108 • Duration: inclusion 2006-2009	• Eligibility criteria: DTC, nonmetastatic, unifocal T1-2 or multifocal T1, limited to the thyroid, total thyroidectomy (exclusion of subtotal thyroidectomy) • *A priori* patient characteristics: mean age 46y, female 85% • Group comparability: significant differences in tumour size (mean 0.83 vs. 1.14, p=0.036) and multifocality (29% vs. 59%, p=0.002)	Low-dose I131: 800 MBq (N=53) vs. High-dose I131: 3700 MBq (N=55)	• Ablation success: ○ 3 criteria: 57.4% vs. 60.4%, p=0.769 ○ 2 criteria (Tg, neck US): 59.6% vs. 66.7%, p=0.474	Level of evidence: B • Unclear randomization method and concealment of allocation • Blinding not reported • 13 patients excluded because of positive Tg-Ab • Definition of ablation success: (1) absence of tracer uptake (or less than twice the background activity in the thyroid bed on WBS and/or ≤0.2% RAIU) in the thyroid bed; (2) undetectable serum Tg (<0.2 ng/ml); (3) absence of remnant tissue and abnormal lymph nodes on neck US • Mean interval between ablation and follow-up: 6.5 vs. 12 months, p<0.0001
Fallahi B 2012	• RCT • Funding/CoI: supported by the Tehran University of Medical Sciences, Grant 132.2131, Tehran, Iran; no CoI declared • Setting: single university centre, Iran • Sample size: N=376 • Duration: not reported	• Eligibility criteria: DTC (no Hürthle cell carcinoma), TT or NTT, M0; all patients with papillary carcinoma underwent prophylactic bilateral central node dissection; no scintigraphic evidence of lymph node or distant metastases, no irresectable lymph node metastases • Group comparability: mean age 38.3 vs. 40.5y (p=0.091), female 83% vs. 85% (p=0.476), papillary 98% vs. 94% (p=0.07)	Low-dose I131: 1100 MBq (N=171) vs. High-dose I131: 3700 MBq (N=170) Interval between surgery and I131: 4-6 weeks	• Ablation success: ○ 6 months: 39.2% vs. 64.1%; RR 0.61 (95%CI 0.49-0.76, p<0.0001) ○ 12 months: 41.5% vs. 68.8%, p<0.0001 • Retreatment: ○ 53.8% vs. 27.1%, p<0.0001 ○ Second dose success rate at 12 months: 31.1% vs. 38.6%, p=0.337 ○ Final success rate at 12 months: 57.9% vs. 78.8%, p<0.0001 • Recurrence: 1.2% vs. 2.3%, p>0.05	Level of evidence: A2 • Randomization using Urn method • Blinding of patients and healthcare providers • 35 patients excluded (15 with metastases, 20 refusals) • Definition of ablation success: major criteria: (1) absence of functioning remnant on I-131 WBS (FR score =0); (2) serum Tg-off <2 ng/ml with antiTg-off < 100 IU/ml; minor criteria: (1) reduction of functioning remnant to a score not less than 1 (FR score >0); (2) minimum of 50% decrease in the Tg-off level, but not to a value <2 ng/ml; (3) serum Tg-off <2 ng/ml with

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					antiTg-off > 100 IU/ml
Johansen K 1991	• RCT? • Funding/CoI: not reported • Setting: single centre, Saudi Arabia • Sample size: N=75 • Duration: not reported	• Eligibility criteria: patients with DTC, M0, TT or NTT • *A priori* patient characteristics: median age 41y, female 83% • Group comparability: no apparent differences	Low-dose I131: 1073 MBq (N=36) vs. High-dose I131: 3700 MBq (N=27) Median interval between surgery and I131: 1.5 months	• Ablation success: ○ after 1st dose: 60% vs. 54%, no p-value ○ after 2nd dose: 69% vs. 62%, no p-value ○ after 3rd dose: 69% vs. 69%, no p-value	Level of evidence: B • Unclear randomization method, unclear allocation concealment • Blinding not reported • 12 patients excluded because they developed palpable disease or metastases, or became pregnant • Definition of ablation success: "scintigraphically ablated", i.e. no pathologic radioiodine uptake after 24h (1073 MBq) or 72h (3700 MBq)
Maenpaa H 2008	• RCT • Funding/CoI: supported by the Helsinki University Central Hospital Research Funds; no CoI declared • Setting: single university centre, Finland • Sample size: N=160 • Duration: inclusion 1/2000-10/2004, median follow-up 51 months	• Eligibility criteria: patients with histologically confirmed thyroid carcinoma, TT or NTT, no macroscopic inoperable locoregional disease or with distant metastases; no palpable lymph node metastases • Group comparability: median age 49 vs. 45y, female 80% vs. 80%, papillary 90% vs. 90%; no apparent differences	Low-dose I131: 1100 MBq (N=81) vs. High-dose I131: 3700 MBq (N=79) Interval between surgery and I131: 5-6 weeks (median 38 days)	• Ablation success (3 criteria): 52% vs. 56%, p=0.61 • No uptake on WBS: 64% vs. 76%, p=0.09 • No differences in any of the post hoc subgroup analyses (male vs. female; age <45 vs. ≥45; papillary vs. follicular cancer; tumour diameter <4 cm vs. ≥4 cm; cervical nodal status negative, pN0 vs. positive, pN+; serum pretreatment Tg <10 ng/ml vs. ≥10 ng/ml; <20 ng/ml vs. ≥20 ng/ml; and neck I131 uptake <2% vs. ≥2%) • One or more repeat treatments: 47% vs. 42%, p=0.41 • Recurrence: metastatic cervical lymph nodes 6 vs. 6, distant metastases 0 vs. 3	Level of evidence: B • Central randomization • Open-label study • 2 patients excluded: 1 refusal, 1 death of acute myeloid leukaemia • Definition of ablation success: (1) absence of abnormal uptake on WBS, (2) undetectable (< 1 ng/mL) serum Tg during both levothyroxine administration and TSH stimulation, and (3) absence of palpable metastases in the neck after 4-8 months
Pilli T 2007	• RCT? • Funding/CoI: supported by grants from Ministero dell'Istruzione, Univerista` e Ricerca Italy, 2005, and Associazione Italiana per la Ricerca sul Cancro, regional grant, Italy, 2005/2006; no CoI declared • Setting: multicentre, Italy • Sample size: N=72 • Duration: not reported	• Eligibility criteria: 18+, DCT, NTT, T1-3, M0 • *A priori* patient characteristics: papillary 92% • Group comparability: mean age 47.9 vs. 50.5y (p=0.45), female 81% vs. 86% (p=0.75); no differences	Low-dose I131: 1850 MBq (N=36) vs. High-dose I131: 3700 MBq (N=36) (after rTSH stimulation)	• Ablation success: ○ No visible uptake: 88.9% vs. 88.9% ○ Both criteria: 86.1% vs. 80.6%	Level of evidence: B • No information on randomization method, allocation concealment or blinding • No exclusions • Definition of ablation success: (1) no visible uptake in the thyroid bed on WBS; (2) undetectable basal serum Tg levels (< 1 ng/ml) at 6-8 months
Zaman M 2006	• RCT? • Funding/CoI: not reported • Setting: single centre,	• Eligibility criteria: patients with DTC who had undergone TT or NTT without any evidence of local or distant metastasis	Low-dose I131: 50 mCi (N=20) vs.	• Ablation success: 40% vs. 60%, no p-value	Level of evidence: B • No information on randomization method, allocation concealment

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	Pakistan • Sample size: N=40 • Duration: not reported	and serum TSH > iu/ml • *A priori* patient characteristics: mean age 38.3y; female 78%; baseline serum Tg 0.6-60 ng/ml; no patient with Tg-Ab • Group comparability: papillary carcinoma 50% vs. 65%	High-dose I131: 100 mCi (N=20)		or blinding • Definition of ablation success: undetectable serum Tg level (< 2 ng/ml) and negative WBS (no tracer deposition in neck or elsewhere) at 6 months
Schlumberger M 2012	• RCT • Funding/CoI: Institut Gustave Roussy, supported by INCa and the French Ministry of Health; no CoI declared • Setting: multicentre (N=24), France • Sample size: N=752 • Duration: 4/2007-2/2010	• Eligibility criteria: 18+, low-risk DTC, pT1 (≤1 cm) N1 or Nx, pT1 (>1 cm) Nany, pT2N0, M0, PS 0-1, TT; no persistent disease on post-ablation scanning and/or ultrasound • Group comparability: no apparent differences ○ Median age: rTSH, low-dose: 51y; rTSH, high-dose: 48y; T4-withdrawal, low-dose: 49y; T4-withdrawal, high-dose: 49y	rTSH stimulation, low-dose I131 (N=186): 1100 MBq vs. rTSH stimulation, high-dose I131 (N=183): 3700 MBq vs. T4-withdrawal, low-dose I131 (N=179): 1100 MBq vs. T4-withdrawal, high-dose I131 (N=181): 3700 MBq	Low vs. high-dose: • Ablation success: 91.1% vs. 93.5%, MD -2.4% (95%CI -5.8% to 0.9%)	Level of evidence: B • Central block randomization • Open-label study • 68 patients not evaluated: 11 withdrawals, 9 ineligible, 3 could not be treated, 27 with persistent disease on post-ablation WBS, 3 lost-to-follow-up, 15 not undergoing all diagnostic tests • Definition of ablation success: at 6-10 months. Ablation was considered complete if both the neck US was normal and the level of rTSH-stimulated Tg was ≤1 ng/ml (or, in cases of detectable Tg-Ab, if the control WBS was normal)

VRAAG 4B: rTSH STIMULATION VS. T4-WITHDRAWAL

Systematic reviews

Study ID	Method	Patient characteristics	Intervention(s)	Results primary outcome	Critical appraisal of review quality
Ma C 2010	• SR • Funding/CoI: West China Hospital Evidence-Based Medicine Center, no CoI declared • Search date: 11/2009 • Databases: Medline, Embase, Cochrane Library, trial register • Study designs: RCTs and quasi-RCTs • N included studies: 4	• Eligibility criteria: patients with DTC after TT or NTT undergoing remnant ablation with I131 • *A priori* patient characteristics: 223 patients with DTC, age 17-76y	rTSH stimulation vs. T4-withdrawal	• Successful ablation (2 studies, N=102): OR = 0.48 (95%CI 0.04-5.68)	Level of evidence: B • No study provided deatils on allocation concealment, 1 study had blinded outcome assessors • Diagnostic criteria of successful thyroid remnant ablation varied in duration of follow up, dose of diagnostic I131, TSH stimulation and Tg concentrations • Included studies: Chianelli 2009, Pacini 2006, Pilli 2007, Vaiano 2007

Primaire studies

Study ID	Method	Patient characteristics	Intervention(s)	Results primary outcome	Critical appraisal of study quality
Mallick U 2012	• RCT • Funding/CoI: grants from Cancer Research UK (C18243/A5802) and University College London and the University College London Hospital Comprehensive Biomedical Research Centre; CoI disclosed • Setting: multicentre (N=26), UK • Sample size: N=438 • Duration: inclusion 1/2007-7/2010, median follow-up 13 months	• Eligibility criteria: 16-80y, PS 0-2, histological confirmation of DTC (including Hürthle-cell carcinoma) requiring radioiodine ablation, T1-3, N0-1, M0, one- or two-stage total thyroidectomy, with or without central LND • Group comparability: ○ Median age: rTSH, low-dose: 44y; rTSH, high-dose: 44y; T4-withdrawal, low-dose: 45y; T4-withdrawal, high-dose: 43y ○ TT: 42% vs. 31%, 28%, 45%	rTSH stimulation, low-dose I131 (N=110): 1.1 GBq vs. rTSH stimulation, high-dose I131 (N=109): 3.7 GBq vs. T4-withdrawal, low-dose I131 (N=110): 1.1 GBq vs. T4-withdrawal, high-dose I131 (N=109): 3.7 GBq Radioiodine ablation was recommended 1 to 6 months after surgery	rTSH vs. T4-withdrawal: • Ablation success: 87.1% vs. 86.7%, RD = 0.4 (95%CI -6.0 to 6.8; p=0.90) ○ T3: 83.3% vs. 79.2%, RD = 4.1 (95%CI -11.5 to 19.8) ○ N1: 81.8% vs. 86.7%, RD = -4.9 (95%CI -22.8 to 13.1)	Level of evidence: B • Central randomization, stratified according to centre, tumour stage, nodal stage • Blinding not reported • 17 patients were excluded from each comparison because of no diagnostic scanning nor Tg testing • Definition of ablation success: negative WBS (<0.1% uptake on the basis of the region-of-interest method drawn over the thyroid bed) and Tg level of <2.0 ng/ml at 6 to 9 months
Lee J 2010	• RCT? • Funding/CoI: supported by research funds of Yonsei University College of Medicine, CoI not reported • Setting: single university centre, Korea • Sample size: N=291 • Duration: inclusion 2/2006-3/2007	• Eligibility criteria: patients with DTC, 18+, TT or NTT, T1-3, M0, no lateral neck node metastases • Group comparability: no significant differences ○ Mean age: rTSH 46.7y vs. T4-withdrawal 50.1y vs. T3-withdrawal 49.0y ○ Female: 93% vs. 93% vs. 89%	rTSH stimulation: 2 injections of rTSH 0.9 mg at 24 and 48h before I131 (N=69) vs. T4-withdrawal: discontinuation of LT4 for 4 weeks (N=89) vs. T3-withdrawal: discontinuation of LT4 for 4 weeks, 2 weeks on and 2 weeks off LT3 (N=133) All patients underwent post-surgical ablation with 30 mCi I131	• Ablation success: 91.3% vs. 91.0% vs. 91.7%, p-value T4/T3-withdrawal vs. rTSH = 0.2061 ○ No visible uptake: 91.3% vs. 94.4% vs. 94.0% ○ Tg ≤1.0 ng/ml: 92.8% vs. 91.0% vs. 91.7%	Level of evidence: B • No information on randomization method or allocation concealment • Open-label study • Definition of ablation success: at 12 months (1) no visible uptake or uptake <0.1% with negative neck US; (2) serum Tg ≤1.0 ng/ml after TSH stimulation
Schlumberger M 2012	• RCT • Funding/CoI: Institut Gustave Roussy, supported by INCa and the French Ministry of Health; no CoI declared	• Eligibility criteria: 18+, low-risk DTC, pT1 (≤1 cm) N1 or Nx, pT1 (>1 cm) Nany, pT2N0, M0, PS 0-1, TT • Group comparability: no apparent differences	rTSH stimulation, low-dose I131 (N=186): 1100 MBq vs. rTSH stimulation, high-dose	rTSH vs. T4-withdrawal: • Ablation success: 91.7% vs. 92.9%, MD -1.2% (95%CI -4.5% to 2.2%)	Level of evidence: B • Central block randomization • Open-label study • 68 patients not

Study ID	Method	Patient characteristics	Intervention(s)	Results primary outcome	Critical appraisal of study quality
	• Setting: multicentre (N=24), France • Sample size: N=752 • Duration: inclusion 4/2007-2/2010	○ Median age: rTSH, low-dose: 51y; rTSH, high-dose: 48y; T4-withdrawal, low-dose: 49y; T4-withdrawal, high-dose: 49y	I131 (N=183): 3700 MBq vs. T4-withdrawal, low-dose I131 (N=179): 1100 MBq vs. T4-withdrawal, high-dose I131 (N=181): 3700 MBq		evaluated: 11 withdrawals, 9 ineligible, 3 could not be treated, 27 with persistent disease on post-ablation WBS, 3 lost-to-follow-up, 15 not undergoing all diagnostic tests • Definition of ablation success: at 6-10 months. Ablation was considered complete if both the neck US was normal and the level of rTSH-stimulated Tg was ≤1 ng/ml (or, in cases of detectable Tg-Ab, if the control WBS was normal)
Taieb D 2009	• RCT? • Funding/CoI: financially supported by the Genzyme Corp. (Cambridge, MA), Conseil Général des Bouches du Rhône and Assistance Publique des Hôpitaux de Marseille ; CoI not reported • Setting: single university centre, France • Sample size: N=74 • Duration: inclusion 11/2005-10/2007	• Eligibility criteria: patients with DTC, 18+, TT, pT1-3, N0-x-1, M0 • *A priori* patient characteristics: mean age 47.2y, female 84%, papillary 89% • Group comparability: educational level was higher in rTSH group	rTSH stimulation: 2 injections of rTSH 0.9 mg at 24 and 48h before I131 (N=37) vs. T4-withdrawal: discontinuation of LT4 for 5 weeks (N=37) All patients underwent post-surgical ablation with 100 mCi I131 (after 6w in T4-withdrawal group, 2-3w in rTSH group)	• Ablation success: 88.9% vs. 97.1%, p=0.36 ○ No visible uptake: 72.2% vs. 91.4%, p=0.04 ○ Tg < 0.8 µg/l: 91.7% vs. 97.1%, p=0.61	Level of evidence: B • No information on randomization method or allocation concealment • Open-label study • 3 patients excluded: 1 loss-to-follow-up, 2 re-operations for persistent disease • Definition of ablation success: at 9 months, uptake of < 0.1% on WBS and Tg < 0.8 µg/l (in absence of Tg-Ab)

Abbreviations
95%CI: 95% confidence interval; DTC: differentiated thyroid cancer; FR: functioning remnant; GBq: gigabecquerel; INCa: Institut National du Cancer; LND: lymph node dissection; LT4: elthyroxine; MBq: megabecquerel; ml: milliliter; ng: nanogram; NTT: near-total thyroidectomy; PS: performance status; RAIU: radioactive iodine uptake; RD: risk difference; rTSH: recombinant TSH; Tg: thyroglobulin; Tg-Ab: thyroglobulin antibody; TSH: thyroid stimulating hormone; TT: total thyroidectomy; US: ultrasonography; WBS: whole-body scan.

References

Bal C, Chandra P, Kumar A, Dwivedi S. A randomized equivalence trial to determine the optimum dose of iodine-131 for remnant ablation in differentiated thyroid cancer. Nucl Med Commun. 2012;33(10):1039-47.

Bal C, Padhy AK, Jana S, Pant GS, Basu AK. Prospective randomized clinical trial to evaluate the optimal dose of 131 I for remnant ablation in patients with differentiated thyroid carcinoma. Cancer. 1996;77(12):2574-80.

Bal CS, Kumar A, Pant GS. Radioiodine dose for remnant ablation in differentiated thyroid carcinoma: a randomized clinical trial in 509 patients. J Clin Endocrinol Metab. 2004;89(4):1666-73.

Caglar M, Bozkurt FM, Akca CK, Vargol SE, Bayraktar M, Ugur O, et al. Comparison of 800 and 3700 MBq iodine-131 for the postoperative ablation of thyroid remnant in patients with low-risk differentiated thyroid cancer. Nucl Med Commun. 2012;33(3):268-74.

Creutzig H. High or low dose radioiodine ablation of thyroid remnants? European Journal of Nuclear Medicine. 1987;12(10):500-2.

Emmanouilidis N, Muller JA, Jager MD, Kaaden S, Helfritz FA, Guner Z, et al. Surgery and radioablation therapy combined: introducing a 1-week-condensed procedure bonding total thyroidectomy and radioablation therapy with recombinant human TSH. EUR. 2009;161(5):763-9.

Fallahi B, Beiki D, Takavar A, Fard-Esfahani A, Gilani KA, Saghari M, et al. Low versus high radioiodine dose in postoperative ablation of residual thyroid tissue in patients with differentiated thyroid carcinoma: a large randomized clinical trial. Nucl Med Commun. 2012;33(3):275-82.

Johansen K, Woodhouse NJ, Odugbesan O. Comparison of 1073 MBq and 3700 MBq iodine-131 in postoperative ablation of residual thyroid tissue in patients with differentiated thyroid cancer. J Nucl Med. 1991;32(2):252-4.

Lee J, Yun MJ, Nam KH, Chung WY, Soh E-Y, Park CS. Quality of life and effectiveness comparisons of thyroxine withdrawal, triiodothyronine withdrawal, and recombinant thyroid-stimulating hormone administration for low-dose radioiodine remnant ablation of differentiated thyroid carcinoma. Thyroid. 2010;20(2):173-9.

Ma C, Xie J, Liu W, Wang G, Zuo S, Wang X, et al. Recombinant human thyrotropin (rhTSH) aided radioiodine treatment for residual or metastatic differentiated thyroid cancer. Cochrane Database of Systematic Reviews. 2010;11(11):CD008302.

Maenpaa HO, Heikkonen J, Vaalavirta L, Tenhunen M, Joensuu H. Low vs. high radioiodine activity to ablate the thyroid after thyroidectomy for cancer: a randomized study. PLoS ONE [Electronic Resource]. 2008;3(4):e1885.

Mallick U, Harmer C, Yap B, Wadsley J, Clarke S, Moss L, et al. Ablation with low-dose radioiodine and thyrotropin alfa in thyroid cancer. N Engl J Med. 2012;366(18):1674-85.

Pilli T, Brianzoni E, Capoccetti F, Castagna MG, Fattori S, Poggiu A, et al. A comparison of 1850 (50 mCi) and 3700 MBq (100 mCi) 131-iodine administered doses for recombinant thyrotropin-stimulated postoperative thyroid remnant ablation in differentiated thyroid cancer. J Clin Endocrinol Metab. 2007;92(9):3542-6.

Schlumberger M, Catargi B, Borget I, Deandreis D, Zerdoud S, Bridji B, et al. Strategies of radioiodine ablation in patients with low-risk thyroid cancer. N Engl J Med. 2012;366(18):1663-73.

Taieb D, Sebag F, Cherenko M, Baumstarck-Barrau K, Fortanier C, Farman-Ara B, et al. Quality of life changes and clinical outcomes in thyroid cancer patients undergoing radioiodine remnant ablation (RRA) with recombinant human TSH (rhTSH): a randomized controlled study. Clin Endocrinol (Oxf). 2009;71(1):115-23.

Zaman Mu, Toor R, Kamal S, Maqbool M, Habib S, Niaz K. A randomized clinical trial comparing 50mCi and 100mCi of iodine-131 for ablation of differentiated thyroid cancers. JPMA J Pak Med Assoc. 2006;56(8):353-6.