

Bilaterality, not multifocality is an independent risk factor for recurrence in low-risk papillary thyroid cancer

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Conclusion

Effect of de-escalation:

- Multifocality could possibly and mistakenly be considered as risk factor because of the confounding effect which bilaterality has on multifocality.
- Bilaterality should be taken into account when considering patients for de-escalated treatment strategy for low-risk PTC.

Background

The impact of multifocality and bilaterality on recurrence in patients with low-risk papillary thyroid cancer (PTC) remain unclear. However, against the background of de-escalating treatment (hemithyroidectomy (HT) instead of total thyroidectomy followed by radioactive iodine (TT+/-RAI)), this may be important when selecting patients for such approach.

Aim

In light of safe surgical de-escalation, the aim of this study is to analyse contralateral tumour probability in patients treated with completion thyroidectomy for low-risk PTC.

Material and methods

Patients with low-risk PTC treated with TT+/- RAI in the Netherlands between 2005 and 2015 were identified from the Netherlands Comprehensive Cancer Organisation (IKNL), and linked with the nationwide network and registry of histo- and cytopathology in the Netherlands (PALGA). For all patients, multifocality and bilaterality were recorded and analysed with univariate and multivariate analyses, to assess them as possible predictors for recurrence.

Results

Of 791 included patients, 331 (41.8%) had multifocal disease (MFD), of whom, 228 (68.9%) patients had bilateral disease. The contralateral tumor probability after HT was 24.6% (150/610) for patients with unifocal disease and 43.1% (78/181) for patients with multifocal disease

We found a higher trend of recurrence in patients with bilateral disease, regardless of multifocality: In patients with contralateral disease after pre-completion diagnosed unifocal disease (group B) 7.3% (11/150) had recurrent disease, while patients without contralateral disease after pre-completion diagnosed multifocal disease (group C), 1.9% (2/103) had recurrence.

Cox regression analysis showed that bilaterality (HR= 3.621; .95%CI=1.548-8.471) was the sole significant risk factor for recurrence.

Table 2. Multivariate Cox regression hazard model for recurrence in patients with T1-2N0 thyroid cancer^a

Characteristics	HR (95% CI)	P
Sex		
Men and women	4.496 (0.605 to 33.437)	.142
Age, y		
Younger than 55 years and older than 55 years	0.994 (0.389 to 2.543)	.990
T stadium		
T1a	Referent	
T1b	0.468 (0.166 to 1.317)	.150
T2	0.507 (0.187 to 1.371)	.181
Multifocal	1.205 (0.248 to 5.852)	.817
Bilaterality	3.621 (1.548 to 8.471)	.003

^a CI = confidence interval; HR = hazard ratio.

