

# Occult level II nodal metastasis in N1b papillary thyroid gland carcinoma

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## Introduction

Routine dissection of level II in patients having a papillary thyroid carcinoma (PTC) without suspicious level II lymph nodes pre-operatively remains controverted.

The controversy is related to less frequent level II metastasis in comparison to levels III and IV and to the damage of the spinal nerve during level II dissection

## Objectifs

The purpose of our study is to determine the occurrence of occult level II metastasis in PTC and to determine the risk factors of the occurrence of this

## Materials and methods

- Retrospective study
- Patients with PTC without suspicious level II lymphadenopathy prior to surgery
- Lateral neck dissection (LND) with a histologically confirmed lateral neck nodal metastasis (LNNM)
- The period between 2016 and 2023.

## Conclusion

Occult level II metastasis occurred in a significant number of patients with N1b PTC. It was significantly more frequent in tumor located at the superior 1/3 of the thyroid lobe and in contralateral CLNM,

The previously reported risk factors of occult level II metastasis include: superior tumors, simultaneous levels III and IV involvement, tumor shape, tumor size, metastatic LLN >4, and multilevel involvement

These risk factors need to be taken into consideration to select patients that are candidates for a selective neck dissection,

## References

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- Song et al, . Indications of Superselective Neck Dissection in Patients With Lateral Node Metastasis of Papillary Thyroid Carcinoma. Otolaryngol Head Neck Surg. 2022

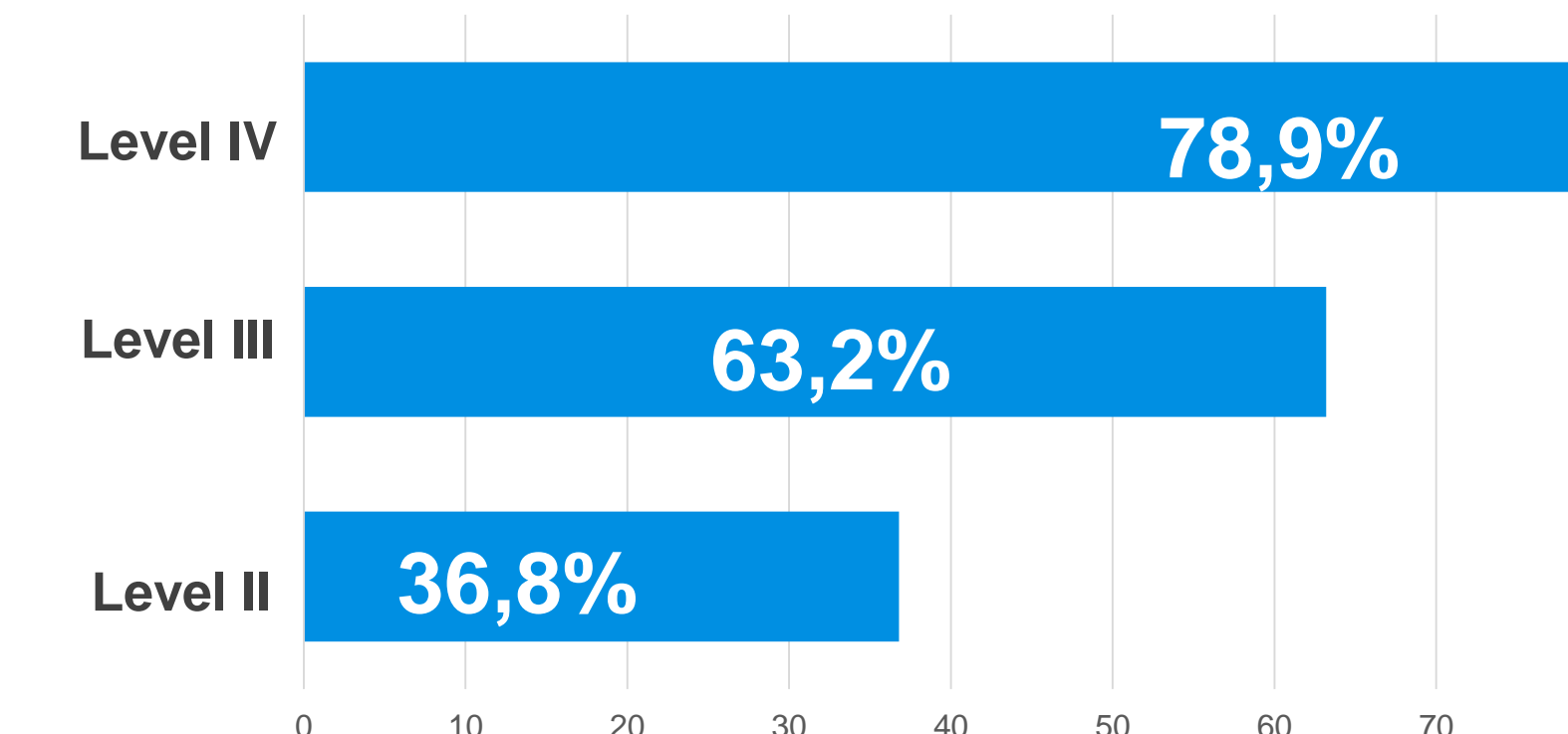
## Results

- **Number of patients:**
- **Sex ratio:** F/M 9,5
- **Mean age:** 45 years old (±16)

- **Pre-operative evaluation:**
- **Level III + → 12 patients**
- **Level IV + → 12 patients**

Surgery type	Number /%
<b>Primary surgery</b>	16 (84.2%)
<b>Secondary surgery</b>	3 (15,8%)
→ Nodal recurrence	1/3
→ Completion thyroidectomy	2/3
<b>Bilateral CND</b>	19 (100%)
<b>Bilateral LND</b>	10 (52,6%)
<b>Ipsilateral LND</b>	
→ II , III, and IV	18 (94.7%)
→ II, III, IV, and V	1 (5.3%)

## Histopathological Lateral LNs involvement



## Pre-operative clinical and ultrasound risk factors

Factors	p Value
<b>Age &gt; 55 years old</b>	0,634
<b>Clinical level III or IV</b>	0,614
<b>Multilevel involvement</b>	0,220
<b>Suspicious lateral lymph node &gt; 2cm</b>	0,202
<b>Thyroid like lymph nodes</b>	0,092
<b>LLN: hypoechogenicity</b>	0,165
<b>LLN: microcalcification</b>	0,082
<b>LLN: dedifferentiation</b>	0,082
<b>LLN: cystic</b>	0,605

## Post-operative histopathological risk factors

Factors	p Value
<b>Tumor size &gt; 2cm</b>	0,526
<b>Thyroiditis</b>	0,374
<b>Upper 1/3 tumor localization</b>	<b>0,044</b>
<b>Multifocality</b>	0,144
<b>Capsular infraction</b>	0,074
<b>Vascular invasion</b>	0,475
<b>Extra-thyroid extension</b>	0,075
<b>Contralateral CLNM</b>	<b>0,049</b>
<b>Bilateral CLNM</b>	0,150