

# BRAF V600E mutation in Papillary Thyroid Cancer (PTC): clinical and pathological features. Is there any role in tailoring initial treatment?

Amelia Oleaga<sup>1</sup>, Fernando Goñi<sup>1</sup>, Miguel Paja<sup>1</sup>, Natalia Iglesias<sup>1</sup>, Elena Fuertes<sup>2</sup>, Aitzol Lizarraga<sup>1</sup>, Angel Gómez-Palacios<sup>3</sup>, Ramón Elorza<sup>1</sup>. Endocrinology <sup>1</sup>, Molecular Pathology<sup>2</sup>, Endocrinological Surgery<sup>3</sup>. Basurto Hospital. Bilbao. Spain.

**Hospital de Basurto**

**ECE 2013**  
**P.1126**

**Introduction:** BRAF (V600E) mutation is the most frequent detected genetic alteration in papillary thyroid carcinomas (PTC) and its presence has been related to aggressive features. Lymph node metastases are common in PTC and are associated with an increase of loco regional recurrence. Nevertheless prophylactic lymph node dissection (PCLND) is not routinely performed because of high rate of surgical complications.

**Description of methods/Design:** We evaluated 31 patients (77,5% females and 22,5% males) with pathological diagnosis of PTC. All of them underwent total thyroidectomy and 28/31 central lymph node dissection (CLND), being 20/28 prophylactic. DNA was extracted from neoplastic cells and BRAF mutation was detected by PCR and sequencing. Analysis included age, preoperatively TSH, tumour size, multifocality, extrathyroidal extension (EET), lymph node metastases (LNMx), histological subtype, clinical stage and ultrasound features.

## RESULTS

	BRAF +	BRAF -	P
N	16 (51,6%)	15 (48,4%)	
Sex (M/F)	4/11	3/13	0,68
Mean Age /years	46,8	55,4	0,28
Tumour size (mm)	17,8	22,8	035
Multifocality	8/16 (50%)	10/15 (66,6%)	0,47
Extrathyroidal extensión	9/16 (56,2%)	5/15 (33%)	0,28
Histological subtype			
Classic/follicular	11 (69%)/1 (6,25%)	6(40%)/6(40%)	0,07
TSH (mU/L)	3,97	2,17	0,35
Preablation Thyroglobulin ng/mL	5,65	3	0,9
N1 *	66,3 %	33%	0,37

\* 20 patients underwent prophylactic CLND

No differences were observed in ultrasound features among both groups.

**Conclusions:** We didn't find any significant association between BRAF+ and clinical and pathological features, not even with the presence of LNMx, probably due to the small size of the sample. Nevertheless, considering the high prevalence of occult LNMx in patients harbouring BRAF mutation, preoperative analyses of BRAF could possibly be helpful to decide initial surgery in patients affected of PTC, as it has been suggested previously.