

# Imunoekspresi braf V600E pada karsinoma papiler tiroid dan hubungannya dengan faktor-faktor prognostik serta varian histopatologik = Braf V600E immunoexpression in thyroid papillary carcinoma and its association with prognostic factors and histopathologic variants / Erna Kristiani

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## Abstrak

### [<b>ABSTRAK</b><br>

Latar Belakang: Karsinoma papiler tiroid (KPT) merupakan keganasan tersering organ endokrin dengan prognosis yang sangat baik, namun pada beberapa kasus dapat terjadi rekurensi dan mortalitas. Beberapa faktor prognostik dan mutasi Btype rapidly accelerated fibrosarcoma V600E (BRAF V600E) dikatakan

berhubungan dengan prognosis yang lebih buruk. Pemeriksaan imunohistokimia protein BRAF V600E dipercaya dapat mendeteksi adanya mutasi dengan spesifisitas 100% dan sensitivitas 89%. Tujuan penelitian ini untuk mengetahui imunoekspresi BRAF V600E dan hubungannya dengan faktor-faktor prognostik.

Bahan dan Cara: Penelitian dilakukan secara retrospektif, desain deskriptif analitik studi potong lintang. Sampel penelitian berasal dari RSCM berjumlah 50 kasus KPT yang dinilai ulang untuk menentukan faktor-faktor prognostik secara mikroskopik. Pemeriksaaan mutasi BRAF V600E menggunakan tehnik imunohistokimia dan penilaian menggunakan H score.

Hasil: Nilai H score  $\geq 326,5$  ditentukan sebagai mutasi BRAF V600E positif dan  $< 326,5$  sebagai mutasi BRAF V600E negatif. Terdapat 17 (34%) kasus positif mengalami mutasi BRAF V600E. Rerata usia pada kasus dengan mutasi BRAF V600E positif adalah 44,71 tahun. Ukuran tumor pada kasus dengan mutasi BRAF V600E positif berkisar antara 0,1-4cm. Tujuh belas kasus yang mengalami mutasi, 6 dlaki-laki dan 11 perempuan. Tujuh kasus dengan perluasan keluar tiroid, 11 kasus dengan metastasis kelenjar getah bening (KGB), dan 8 kasus dengan varian histopatologik tall cell. Kesimpulan: Terdapat hubungan bermakna antara mutasi BRAF V600E dengan perluasan keluar tiroid, metastasis kelenjar getah bening (KGB), dan varian histopatologik tall cell. Tidak terdapat hubungan bermakna antara mutasi BRAF V600E dengan usia, jenis kelamin, dan ukuran tumor.

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### <b>ABSTRACT</b><br>

Backgroud: Papillary Thyroid Carcinoma (PTC) is the most common malignant neoplasm of the endocrine organ with an excellent prognosis, but in some cases present with recurrency and mortality. There are prognostic factors and BRAF V600E mutation that related to worse prognosis. Immunohistochemical investigation of BRAF V600E protein believe can detect mutation wth 100%

specificity and 89% sensitivity. Recent study suggest PTC with BRAF V600E mutation do thyroidectomy with prophylactic lymph node dissection. BRAF V600E specific inhibitor effective to the patient with advance stadium, patient with metastases, and resistant to iodine radioactive. Aim of this study is to obtain BRAF V600E and the relation with prognostic factors.

**Material and Methods:** This is a retrospective descriptive-analytic crosssectional study. Fifty patient with PTC comes from Ciptomangunkusumo Hospital and reviewed to determine prognostic factors microscopically. BRAF V600E mutation detected by immunohistochemical staining and assessed with H score.

**Result:** H score  $\geq 326,5$  determined as positive BRAF V600E mutation and  $< 326,5$  as negative BRAF V600E mutation. BRAF V600E mutation was detected in 17 (34%) cases by immunohistochemistry. The mean age of the cases with positive BRAF V600E mutation was 44.71 years, while the negative 41.58. The size of the tumor in cases with BRAF V600E mutation positive range between 0,1-4cm, while negative 0,1-9cm. Seventeen cases have mutations, 6 of them sex male and 11 female. Seven cases with extrathyroidal extension (ETE), 11 cases with lymph node metastasis (KGB), and 8 cases with tall cell variant.

**Conclusion:** There are significant correlation between BRAF V600E mutation with extrathyroidal extension, lymph node metastases, and tall cell variant. There are no significant correlation between BRAF V600E mutation with age, gender, and size of the tumor, **Background:** Papillary Thyroid Carcinoma (PTC) is the most common malignant

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