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## DAFTAR SINGKATAN

|      |  |
|------|--|
| ATA  | : <i>American Thyroid Association</i>        |
| AJH  | : <i>Aspirasi Jarum Halus</i>                |
| APC  | : <i>Antigen Presenting Cells</i>            |
| AUC  | : <i>Area Under the Curve</i>                |
| CTLs | : <i>Cytotoxic T lymphocytes</i>             |
| DNA  | : <i>Deoxyribonucleid Acid</i>               |
| FvW  | : <i>Faktor von Willebrand</i>               |
| MAP  | : <i>Mitogen Activated Protein</i>           |
| MES  | : <i>Matriks Ekstraseluler subendotelial</i> |
| MHC  | : <i>Major Histocompatibility Complex</i>    |
| NK   | : <i>Natural Killer</i>                      |
| PMP  | : <i>Platelet-derived microparticles</i>     |
| RTL  | : <i>Rasio Trombosit Limfosit</i>            |
| RVT  | : <i>Rerata Volume Trombosit</i>             |
| TAM  | : <i>Tumor-Associated Macrophages</i>        |
| TGF  | : <i>Transforming Growth Factor</i>          |
| TSH  | : <i>Thyroid Stimulating Hormone</i>         |
| VEGF | : <i>Vascular Endothelial Growth Factor</i>  |

## INTISARI

Latar belakang : Klasifikasi Bethesda kelas III dan IV kurang konklusif dalam penegakan diagnosis kanker tiroid. Uji molekuler sebagai pemeriksaan tambahan tidak selalu tersedia. Inflamasi terlibat dalam inisiasi dan progresi kanker tiroid. Respon inflamasi tersebut di picu oleh sitokin dan kemokin yang dilepaskan oleh sel ganas dan bersirkulasi dalam darah. Sebagai hasilnya, terjadi perubahan sistemik neutrofilia, trombositosis dan limositopenia.

Tujuan : Mengetahui perbedaan rasio trombosit limfosit dan rerata volume trombosit antara nodul tiroid ganas dibanding nodul tiroid jinak

Metode : Penelitian dilakukan di RSUP dr. Sardjito Yogyakarta terhadap sejumlah 36 pasien nodul tiroid jinak dan 36 nodul tiroid ganas, berdasarkan hasil patologi anatomi setelah operasi dan tanpa penyakit infeksi, yang di analisis secara retrospektif. Penelitian ini menilai rasio trombosit limfosit dan rerata volume trombosit preoperasi dengan hasil patologi anatomi post operasi.

Hasil : Nodul tiroid dominan terjadi pada perempuan dengan 63 pasien (87,5%) dan 31 pasien (49,2%) diantaranya keganasan. Pada keganasan dijumpai 20 pasien (55,5%) pada usia  $\geq 45$  tahun. Karsinoma tiroid papilari merupakan jenis yang terbanyak dengan 32 pasien (88,9%). Rasio trombosit limfosit dan rerata volume trombosit secara signifikan lebih tinggi pada nodul tiroid ganas ( $p < 0,05$ ) dengan koefisien korelasi 0,321 untuk rasio trombosit limfosit dan 0,255 rerata volume trombosit.

Kesimpulan : Terdapat perbedaan bermakna secara statistik rasio trombosit limfosit dan rerata volume trombosit pada nodul tiroid jinak dan nodul tiroid ganas.

Kata Kunci : Trombosit, Limfosit, Nodul tiroid, Inflamasi

## ABSTRACT

**Background :** Class III and IV of Bethesda classification is less conclusive in the diagnosis of thyroid cancer. Molecular testing as an additional examination is not always available. Inflammation has been implicated in initiation and progression of thyroid cancer. The inflammatory response is triggered by circulating cytokines and chemokines, which are released by malignant cells, in blood. As a result, systematic alterations, such as neutrophilia, thrombocytosis and lymphocytopenia, occur.

**Purpose :** Knowing the differences of thrombocyte-lymphocyte ratio and mean thrombocyte volume between benign thyroid nodule and malignant thyroid nodule.

**Methods :** This study conducted at Sardjito Hospital Yogyakarta to thirty six patients with benign thyroid nodule and thirty six patients malignant thyroid nodule, based on pathological anatomy post surgery and without infectious disease, were analyzed retrospectively. This study will evaluated thrombocyte lymphocyte ratio and mean thrombocyte volume with result post operative pathological anatomy. Complete blood counts with differential counts were taken before operation. Thrombocyte lymphocyte ratio was calculated by dividing preoperative thrombocyte count with lymphocyte count.

**Results :** Thyroid nodule were dominant in 63 women patients (87,5%) and 31 patients (49,2%) were malignant. In malignancies, 20 patients (55,5%) were more than 45 year old. Papillary thyroid carcinoma was the most cases with 32 patients (88,9%). The thrombocyte lymphocyte ratio and mean thrombocyte volume were significantly higher in malignant thyroid nodules ( $p < 0,05$ ) with a correlation coefficient 0.321 for thrombocyte lymphocyte ratio and 0.255 mean thrombocyte volume.

**Conclusions :** There were statistically significant difference of thrombocyte-lymphocyte ratio and mean thrombocyte volume between benign thyroid nodule and malignant thyroid nodule.

**Keywords :** *Thrombocyte, lymphocyte, thyroid nodule, inflammation*