

# Trombosis Vena Dalam Pada Pasien Tumor Muskuloskeletal Ganas Tungkai Bawah Di Rsupn Cipto Mangunkusumo: Metode Hematologi Dan USG Doppler = Deep Vein Trombosis in Malignant Musculoskeletal Tumors of the Lower Extremities at Cipto Mangunkusumo Hospital: Hematology Methods and Doppler Ultrasound

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## Abstrak

Pendahuluan: Trombosis Vena Dalam pada pasien tumor ganas tungkai bawah sering kali terjadi tanpa terdeteksi. Banyak faktor seperti usia, jenis kelamin, indeks massa tubuh, jenis tumor, metastasis, fraktur patologis, *differential count*, kadar fibrinogen, kadar D-dimer, rasio PT, rasio APTT, *Neutrophil-Lymphocyte Rasio* (NLR), *Platelet-Lymphocyte Rasio* (PLR) dan Khorana *risk score* yang dapat mempengaruhi kejadian

TVD.

**Metode:** Penelitian ini menggunakan desain potong lintang di RSUPN Cipto Mangunkusumo dengan *total sampling*. Pasien dengan tumor ganas tungkai bawah selama periode September 2020 hingga September 2021 dilihat usia, jenis kelamin, indeks massa tubuh, jenis tumor, metastasis, fraktur patologis, *differential count*, kadar fibrinogen, kadar D-dimer, rasio PT, rasio APTT, NLR, PLR dan Khorana *risk*

*score*.

**Hasil:** Dari 45 subjek penelitian dengan tumor ganas tungkai bawah, 4 positif TVD. Dari pengujian bivariat dengan uji statistik yang sesuai, tidak didapatkan hubungan yang bermakna antara data dasar pasien seperti jenis kelamin ( $p=0.608$ ), IMT ( $p=0.651$ ), tipe tumor ( $p=0.754$ ), fraktur patologis ( $p=0.754$ ), metastasis ( $p=0.679$ ), operasi ( $p=1.000$ ), lokasi tumor ( $0.840$ ), venektasi ( $p=0.561$ ), dan kemoterapi ( $p=0.617$ ). Pada penelitian ini ditemukan hubungan signifikan antara rasio prothrombin time (PT) dengan kejadian TVD ( $P=0.012$ ). Variabel yang berkorelasi signifikan secara statistik antara lain tipe tumor ( $p=0.023$ ) dan kondisi fraktur patologis ( $p=0.026$ ). Terdapat hubungan yang bermakna antara variabel venektasi dengan kadar D-dimer ( $p=0.002$ ). Didapatkan korelasi signifikan antara kadar D-dimer dengan skor faktor risiko Khorana ( $p=0.039$ ). Didapatkan hubungan yang bermakna secara signifikan antara variabel fraktur patologis dengan kadar Rasio Platelet-Limfosit ( $p=0.023$ ). Terdapat 4 variabel yang secara statistik berhubungan signifikan dengan Khorana risk score yaitu Hb ( $p=0.011$ ), leukosit ( $p=0.005$ ), hematokrit ( $p=0.047$ ) dan D-dimer

( $p=0.035$ ).

**Kesimpulan:** Angka kejadian TVD pada tumor ganas tungkai bawah cukup rendah yaitu 8.89%, di mana tidak terdapat hubungan yang bermakna secara statistik antara variabel karakteristik maupun laboratorium darah dengan kejadian TVD

**Introduction:** Deep Vein Trombosis in patients with malignant tumors of the lower limbs often goes undetected. Many factors such as age, sex, body mass index, tumor type, metastasis, pathological fracture, differential count, fibrinogen level, D-dimer level, PT ratio, APTT ratio, NLR, PLR and Khorana risk score may affect the incidence of DVT

**Methods:** This study used a prospective cohort design at Cipto Mangunkusumo General Hospital with total sampling. Patients with malignant tumors of the lower limbs during the period September 2020 to September 2021 were

assessed for age, sex, body mass index, tumor type, metastases, pathological fractures, diff count, fibrinogen levels, D-dimer levels, PT ratio, APTT ratio, NLR, PLR and Khorana risk score

**Results:** Of the 45 study subjects with malignant tumors of the lower limbs, 4 were positive for TVD. From bivariate testing with appropriate statistical tests, there was no significant relationship between patient baseline data such as gender ( $p=0.608$ ), BMI ( $p=0.651$ ), tumor type ( $p=0.754$ ), pathological fracture ( $p=0.622$ ), metastases ( $p=0.679$ ), surgery ( $p=1,000$ ), tumor location ( $0.840$ ), venectomy ( $p=0.561$ ), chemotherapy ( $p=0.617$ ), and Khorana risk score ( $p=0,552$ ). This study found a significant relationship between the prothrombin time (PT) ratio and the incidence of DVT ( $P=0.012$ ). Variables with statistically significant correlation were tumor type ( $p=0.023$ ) and pathological fracture condition ( $p=0.026$ ). There was a significant relationship between the venectomy variable and the level of D-dimer ( $p=0.002$ ). There was a significant correlation between D-dimer levels and the Khorana risk factor score ( $p=0.035$ ). A significant relationship was found between the pathological fracture variables and the levels of the Platelet-Lymphocyte Ratio ( $p=0.023$ ). There are 4 variables that are statistically significantly related to the Khorana risk score, namely Hb ( $p=0.011$ ), leukocytes ( $p=0.005$ ), hematocrit ( $p=0.047$ ) and D-dimer ( $p=0.035$ ).

**Conclusion:** The incidence of DVT in malignant tumors of the lower limbs is quite low, namely 8.89%, where there is no statistically significant relationship between characteristic and blood laboratory variables with the incidence of DVT.