Protein C, protein S, antithrombin III, and hyperfibrinogenemia in deep vein thrombosis (DVT) among patients who underwent high risk orthopaedic surgery

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Abstrak

Kasus trombosis vena dalam (TVD) pasca operasi di Indonesia dianggap jarang, demikian pula dengan trombofilia. Oleh karena itu, penulis berpendapat bahwa diperlukan penelitian untuk mendapat angka kejadian TVD pasca operasi ortopedi risiko tinggi, dan profil trombofilia pada kasus TVD dan non-TVD di Indonesia. Penelitian cross sectional ini dilakukan pada 20 pasien yang menjalani operasi daerah panggul (total hip replacement dan fiksasi fraktur femur proksimal) dan daerah lutut (fiksasi femur distal dan total knee replacement). Pada tiap pasien dilakukan pemeriksaan protein C, protein S, antitrombin III, dan fibrinogen pada hari kelima pasca operasi, kemudian pada periode antara hari kesepuluh dan keduapuluhsatu pasca operasi dilakukan pemeriksaan USG kompresi/Doppler vena. Bila hasil USG-nya menunjukkan adanya TVD, maka dikonfirmasi dengan venografi. TVD ditemukan pada lima pasien (25%). Defisiensi protein C (P= 0,46), protein S (P= 0,81), antitrombin III (P= 0,46), dan hiperfibrinogenemia (P= 0,0547) tidak berkorelasi dengan TVD pasca operasi. Namun demikian, hiperfibrinogenemia merupakan faktor risiko TVD pasca operasi (attributable risk= 1). Faktor penyerta lain seperti diabetes mellitus (P= 1,0), obesitas (P= 0,28), hipertensi (P= 1,0), hipertrigliseridemia, dan hiperkolesterolemia tidak berkorelasi dengan TVD pasca operasi. Penelitian ini menunjukkan adanya kasus TVD pasca operasi di Indonesia. TVD tidak berkorelasi dengan defisiensi protein S, protein C, dan antitrombin III. (Med J Indones 2004; 13: 24-30).

<hr>Post operative DVT is believed to be rare in Indonesia, and so is trombophilia. It is necessary to know the incidence of postoperative DVT in Indonesia and thrombophlia profile (protein C, S, AT III deficiency and hyperfibrinogenemia) in DVT and non DVT patient who underwent orthopedic surgery involving the hip and knee (high risk surgery). A cross sectional study was conducted in 20 patients who underwent surgery involving the hip (total hip replacement and fixation of proximal femoral fracture) and knee (total knee replacement and fixation of distal femoral fracture). Protein C, protein S, antithrombin III, and fibrinogen were examined in day 5 post operative, as well as with compression/Doppler USG between day 10 to 21 post operative, and confirmed by venography if USG findings was positive. Post operative DVT were found in 5 of 20 patients (25%). Deficiency of protein C (P= 0.46) protein S (P= 0.81), antithrombin III (P= 0.46), and hyperfibrinogenemia (P= 0.0547) did not correlate to post operative DVT. However, hyperfibrinogenemia was found to be a risk factor to post operative DVT (attributable risk= 1). Other confounding factor such as diabetes mellitus (P= 1.0), obesity (P= 0.28), hypertention (P= 1.0), hypertrigliseridemia, and hypercholesterolemia did not correlate to post operative DVT. The study suggested the existence of postoperative DVT cases in Indonesia. Hyperfibrinogenemia is a risk factor to promote post operative DVT. Deep vein thrombosis did not correlate to protein S, protein C, and antithrombin III deficiency. (Med J Indones 2004; 13: 24-30).