

Triiodotironin sebagai prediktor perburukan klinis pada pasien sepsis = Triiodothyronine as a predictor of worse outcome in sepsis patients

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Abstrak

[ABSTRAK

Latar Belakang: Non Thyroidal Illness Syndrome (NTIS), atau Euthyroid Sick Syndrome (ESS) atau Sindroma Penyakit Non Tiroid menggambarkan adanya kelainan status hormon tiroid pada pasien dengan penyakit sistemik di luar penyakit kelenjar tiroid. Tujuan penelitian ini adalah mendapatkan peran status hormon tiroid sebagai salah satu upaya mengidentifikasi pasien sepsis yang berisiko mempunyai luaran klinis yang buruk.

Metode Penelitian: Dilakukan penelitian kohort prospektif dengan tipe penelitian prognostik di Rumah Sakit Umum Pusat Nasional dr. Cipto Mangunkusumo yang melibatkan 40 pasien sepsis selama periode Mei-Juni 2014. NTIS dinilai dengan pemeriksaan status hormon tiroid (TSHs, T3 total, T4 total, T3 bebas dan T4 bebas) pada hari pertama diagnosis sepsis. Kemudian dilakukan penilaian skor SOFA sebagai luaran klinis pada hari pertama, kedua dan ketiga pengamatan. Yang dianalisis sebagai faktor prediktor luaran klinis pasien sepsis adalah T3 total.

Hasil: Dari 40 subyek didapatkan NTIS pada seluruh subyek penelitian. Gambaran hormon tiroid saat pasien didiagnosis sepsis adalah nilai median TSHs 0,86 mIU/L (0,06-4,96), median T3 total 0,49 ng/mL (0,21-1,37), rerata T4 total 4,89 mg/dL (2,34), median T3 bebas 1,19 pg/mL (0,53-3,63) dan median T4 bebas 1,12 ng/dL (0,35-3,38). Dari total sampel penelitian terdapat 23 subyek yang mengalami perburukan klinis dan 17 subyek tanpa perburukan. Terdapat perbedaan bermakna konsentrasi T3 total yang lebih rendah antara kelompok subyek dengan perburukan klinis dan tanpa perburukan klinis ($p=0,046$). Sedangkan kelompok subyek dengan konsentrasi T3 total sangat rendah ($<0,49$ ng/mL) dengan subyek dengan konsentrasi T3 total yang rendah (0,50-1,37 ng/mL) untuk mengalami perburukan klinis secara statistik tidak bermakna ($p=. 0,061$), dengan resiko relatif sebesar 1,7 (IK 0,94-3,07).

Simpulan: Terdapat perbedaan bermakna konsentrasi T3 total yang lebih rendah pada pasien sepsis yang mengalami perburukan klinis dibandingkan dengan pasien sepsis tanpa perburukan klinis. Terdapat peningkatan risiko untuk mengalami perburukan klinis pada pasien dengan konsentrasi T3 total sangat rendah dibandingkan pasien dengan konsentrasi T3 total yang rendah sebesar 1,7.

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ABSTRACT

Background : Non Thyroidal Illness Syndrome (NTIS) or Euthyroid Sick Syndrome (ESS) is described as abnormal findings on thyroid function tests that occur in the patients without preexisting thyroid disease.

The high prevalence of mortality or morbidity was associated with the changes in thyroid hormone status. The objective was to evaluate the role play of thyroid hormone in natural history of sepsis and to identify the patients who has a high risk of having adverse clinical outcome.

Methods: A cohort prospective with prognostic type of research was conducted in ER, ICU and general ward in Cipto Mangunkusumo Hospital. There were 40 sepsis subjects were included in the period of Mei to June 2014. Data collection consists of characteristic, physical assessment, thyroid hormonal status (TSHs, TT3, TT4, freeT3, freeT4) and SOFA score (Sequential Organ Failure Assessment). TT3 were analyzed as a predictor of clinical outcome which determined by SOFA score within 3 days.

Results: The NTIS prevalence was 100%. Thyroid hormone status at sepsis diagnosis were TSHs 0,86 mIU/L (0.06-4.96), TT3 0,49 ng/mL (0.21-1.37), TT4 4.89 mg/dL (2.34), free T3 1.19 pg/mL (0.53-3.63) and free T4 1.12 ng/dL (0.35-3.38). Among the subjects, there were 23 subjects who had worse outcome and 17 subjects without worse outcome. There were significant differences in lower TT3 concentration among sepsis patients with worse outcome and without worse outcome ($p=0.46$). There were no significant differences between very low TT3 concentration (<0.49 ng/mL) and low TT3 concentration (0.50-1.37 ng/mL) in predicting worse outcome ($p=0.061$) with relative risk 1.7 (CI 0.94-3.07).

Conclusion: There were significant differences in lower TT3 concentration among sepsis patients with worse outcome and without worse outcome. Sepsis patients with a very low TT3 concentration were 1.7 times more likely to have a worse outcome than those with a low TT3; Background : Non Thyroidal Illness Syndrome (NTIS) or Euthyroid Sick Syndrome (ESS) is described as abnormal findings on thyroid function tests that occur in the patients without preexisting thyroid disease. The high prevalence of mortality or morbidity was associated with the changes in thyroid hormone status. The objective was to evaluate the role play of thyroid hormone in natural history of sepsis and to identify the patients who has a high risk of having adverse clinical outcome

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