# Skoring prognostik cedera otak traumatika berat = Prognostic scoring severe traumatic brain injury patient single indonesian institution study

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Abstrak

[ABSTRAK<br>
Latar Belakang: Cedera otak traumatika akibat kecelakaan lalu lintas masih merupakan salah satu penyebab kematian dan kecacatan utama pada kelompok usia produktif. Cedera otak sekunder dideskripsikan sebagai konsekuensi gangguan fisiologis, seperti iskemia, reperfusi, dan hipoksia pada area otak yang beresiko, beberapa saat setelah terjadinya cedera awal (cedera otak primer). Cedera otak sekunder sensitif terhadap terapi dan proses terjadinya dapat dicegah dan dimodifikasi. Metode: Penelitian kohort retrospektif dengan data primer rekam medis. Data yang terdiri dari beberapa variabel yang dikumpulkan secara retrospektif dari catatan medis pasien. RS. Hasan Sadikin, Bandung Jawa Barat, Indonesia. Pengambilan data dilakukan pada 2011-2014. Jumlah sampel yang diambil sebanyak 647 pasien. Analisis yang dilakukan meliputi analisis univariat, bivariat, dan analisis multivariate cox proportional hazard dengan model matematis yang selanjutnya akan dibuat model skoring. Analisis roctab digunakan untuk menentukan nilai cut-off setiap variabel numerik. Hasil: Variabel perdarahan otak, tingkat kesadaran, dan edema serebri merupakan faktor resiko outcome, sedangkan variabel peningkatan tekanan intrakranial, kadar elektrolit natrium dan klorida, serta terapi diuretik merupakan faktor resiko untuk terjadinya outcome kematian pada pasien ensefalitis anak. Berdasarkan hasil analisis multivariat skoring didapatkan urutan faktor prognostik yang dominan menyebabkan kematian, yaitu Variabel usia memilik HR sebesar 1,00, natrium mempunyai HR 0,8, Perdarahan otak pada CT Scan kepala mempunyai HR sebesar 1,73, edema serebri mempunyai HR 2,53, hipoksia mempunyai HR sebesar 2,13, farktur maksillofascial mempunyai HR sebesar 0,6, hipotensi memiliki HR 0,7 dan pembedahan/trepanasi mempunyai HR 0,388 Berdasarkan analisis tersebut maka natrium, GCS, hipotensi, pembedahan dan MFS fraktur merupakan faktor proteksi outcome sedangkan usia, perdarahan otak pada CT Scan, edema serebri, hipoksia merupakan faktor resiko terjadinya outcome
kematian pada pasien cedera kepala berat. Dari hasil mulitvariat yang telah dilakukan sebelumnya apabila skor -69 s/d -47 mengalami resiko rendah untuk mengalami kematian, skor -46 s/d -20 mengalami resiko sedang untuk terjadinya kematian dan skor >-19 akan mengalami resiko tinggi terjadinya kematian. Kesimpulan: Model skoring prognosis yang telah terbentuk ini mampu memprediksi sebesar 84,75 % faktor faktor yang berhubungan dengan prognosis cedera otak traumatika berat. Apabila ada 100 pasien cedera kepala berat dengan adanya semua variabel maka 76 pasien akan meninggal dan bila 100 pasien cedera kepala berat tanpa adanya semua variabel maka 25 pasien akan meninggal.
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ABSTRACT<br>
Background: Severe traumatic brain injury caused by traffic accidents is still one of the major causes of death and disability in the productive age group. Secondary brain injury is described as a physiological disorders, such as ischemia, reperfusion, and hypoxia in brain areas at risk, some time after the initial injury

(primary brain injury). Secondary brain injury is sensitive to therapy it can be preventable and modifiable. Methods: This cohort study with primary data medical records. The data consists of multiple variables collected retrospectively from patient medical records at Hasan Sadikin Hospital Bandung West Java, Indonesia. Data were collected in 2011-2014. The number of samples was 647 patients. Analysis was conducted on univariate, bivariate, and multivariate Cox proportional hazards analysis with a mathematical model which would then be created scoring models. Roctab analysis
is used to determine the cut-off value of any numeric variable.
Results: Variable brain hemorrhage, level of consciousness and cerebral edema is a risk factor outcomes, while variable increased intracranial pressure, electrolyte levels of sodium and chloride, as well as diuretic therapy is a risk factor for the occurrence of mortality outcomes in patients with severe traumatic brain injury. Based on the results of the multivariate analysis of prognostic factors scoring sequence obtained the dominant cause of death, the age variable having an HR of 1.00, sodium has HR 0.8, brain hemorrhage on CT scan head has a HR of 1.73, had a cerebral edema HR 2,53, hypoxia has a HR of 2.13, fracture maxillofascial have HR of 0.6 and hypotension have HR 0.7, surgery / trepanation HR 0.388, based on the analysis of the sodium, GCS, hypotension, MFS fracture, surgery and outcome protection factor whereas age, brain hemorrhage on a CT scan, cerebral edema, hypoxia is a risk factor for mortality outcomes in patients with severe head injury. From the results multivariate analysis has score of -69 s/d -47 experiencing low risk to experience death, a score of -46 s / d -20 experiencing moderate risk for the occurrence of death and a score of > -19 will experience a high risk of death. Conclusions: This Prognostic model scoring has capable to predict 84.75% factors related to the prognosis of severe traumatic brain injury. If there were 100 patients with severe traumatic brain injury in the presence of all variables and 76 patients will die and when 100 patients with severe traumatic brain injury in the absence of all variables that 25 patients will die., Background: Severe traumatic brain injury caused by traffic accidents is still one of the major causes of death and disability in the productive age group. Secondary brain injury is described as a physiological disorders, such as ischemia, reperfusion, and hypoxia in brain areas at risk, some time after the initial injury (primary brain injury). Secondary brain injury is sensitive to therapy it can be preventable and modifiable.
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