

# Hubungan Antara Kadar Gula Darah Sewaktu dengan Volume pada Perdarahan Intracerebral Hipertensif

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## Abstrak

Latar Belakang. Oleh karena tingginya angka kecacatan dan kematian pada penderita stroke hemoragik, beberapa peneliti mendapatkan adanya hiperglikemia pada perdarahan intracerebral menyebabkan kerusakan otak yang luas kerusakan otak. Untuk mencegah kerusakan tersebut, sangat penting untuk mengetahui dan mengantisipasi peningkatan kadar gula darah sewaktu pada perdarahan intracerebral fase akut. Metod e. Penelitian ini merupakan analitik observasional secara potong lintang pada 50 penderita stroke hemoragik dengan riwayat hipertensi yang dirawat di rumah sakit Cipto Mangunkusumo dipilih secara consecutive sampling berdasarkan kriteria inklusi yaitu onset stroke kurang dari 72 jam, riwayat diabetes melitus, usia 45 - 65 tahun. Kriteria eksklusi yaitu stroke iskemik dan berulang. Dilakukan diagnosis dengan pemeriksaan fisik, pemeriksaan neurologis dan Cf Scan, volume perdarahan dihitung dengan menggunakan rumus elipsoid  $\frac{4}{3} \times \pi \times \frac{1}{2} \times \frac{1}{2} \times t$ . Defisit neurologis diukur dengan menggunakan skala NIHSS. Pemeriksaan gula darah sewaktu, HbA1c diukur setelah dihitung volume perdarahan, kemudian dianalisis dengan uji statistik korelasi regresi, analisis multi regresi ( $p < 0,05$ ). Hasil. Usia rata-rata penderita perdarahan intracerebral hemoragik adalah  $55,5 \pm 6,2$  tahun. Peningkatari tekanan darah sistolik (rerata  $190,0 \pm 21,0$  mmHg) berhubungan bermakna dengan peningkatan kadar gula darah sewaktu ( $p = 0,032$ ,  $p < 0,05$ ). Rerata kadar gula darah sewaktu  $155 \pm 56,7$  mg/dl. Besarnya volume perdarahan (rerata  $32,0 \pm 31,4$  cm<sup>3</sup>) berhubungan bermakna dengan peningkatan kadar gula darah sewaktu ( $p = 0,032$ ,  $p < 0,05$ ). Peningkatan HbA1c berhubungan bermakna dengan volume perdarahan ( $p = 0,000$ ,  $p < 0,05$ ). Kesimpulan. Makin tinggi tekanan darah sistolik akan makin besar volume perdarahan intracerebral. Makin besar volume perdarahan intracerebral akan makin tinggi kadar gula darah. Adanya riwayat diabetes melitus akan menambah besarnya volume perdarahan.

.....Background Regarding of the high disability and mortality rates on hemorrhage stroke patients, many authors found that hyperglycemia in intracerebral hemorrhage leading to severe brain damage. To prevent such effect, the anticipation of increasing random blood glucose concentration in acute phase intracerebral hemorrhage is crucial. Method This is a cross sectional analytic observational study on 50 consecutive sampling of stroke hemorrhage patients with history of hypertension at Cipto Mangunkusumo Hospital, with onset of stroke before 72 hours, history of diabetes mellitus, age range of 45 - 65 years as primary inclusion criteria. Patients with multiple stroke were excluded. Diagnostic on admission were screened by clinical examinations, clinical neurologic computed tomographic scans (CT Scans). Volume of intracerebral hemorrhage was then estimated using the formula for an ellipsoid  $\frac{4}{3} \times \pi \times \frac{1}{2} \times \frac{1}{2} \times t$ . Neurological deficit was measured by NIHSS (National Institutes of Health Stroke Scale). Blood glucose level, HbA1c were measured after estimated the hemorrhage volume at the time of admission. Data were taken statistical method with univariate logistic regression analysis values of  $p < 0,05$ . Results The mean age of acute stroke hemorrhage patients is  $55,5 \pm 6,2$  years old. Elevation of systolic blood pressure (mean  $190,0 \pm 21,0$  mmHg) was significantly correlated with the height of blood glucose level ( $p = 0,020$ ,  $p < 0,05$ ). Mean blood glucose

level  $155 \pm 56,7$  mg/dl. Elevation of intracerebral hemorrhage volume was significantly correlated with the height of blood glucose level ( $p = 0,032$ ,  $p < 0,05$ ). Elevation of the HbA1c was significantly correlated with the height volume of intracranial hemorrhage ( $p = 0,000$ ,  $p < 0,05$ ). Conclusion The higher the systolic blood pressure larger the intracerebral hemorrhage volume. Elevation of systolic blood pressure will raising the volume of intracerebral hemorrhage. The larger the intracerebral hemorrhage the higher the blood glucose concentration. History of diabetes mellitus will increase the hemorrhage volume.