

INTISARI

Latar Belakang dan Tujuan:

Saat ini penanganan operasi Perdarahan Intracerebral Spontan (PIS) dengan Neuroendoskopi merupakan salah satu pilihan yang menjanjikan. Tujuan penelitian ini untuk mengetahui perbandingan luaran klinis, perubahan kadar IL-1 β , IL-6 dan NGF cairan serebrospinal pada evakuasi Perdarahan Intracerebral Spontan dengan Neuroendoskopi dibandingkan dengan Kraniotomi.

Metode:

Telah dilakukan analisa uji klinik kendali acak dengan metode randomisasi blok selama 27 bulan pada 43 pasien Perdarahan Intracerebral Spontan. Dua puluh lima pasien ditangani dengan operasi Neuroendoskopi dan 18 pasien ditangani dengan Kraniotomi. Evakuasi Perdarahan Intracerebral Spontan pada teknik Neuroendoskopi dengan selongsong Neuroendoskopi transparan yang terbuat dari bahan silastik berasal dari potongan *thoracic tube* no 21F sebagai *working channel*. Dilakukan pemeriksaan IL-1 β , IL-6 dan NGF cairan serebrospinal pre-operasi dan 4 hari pasca operasi dengan *double antibody sandwich* ELISA.

Hasil:

Dilakukan analisa statistik pengukuran kadar IL-1 β , IL-6 dan NGF cairan serebrospinal pre operasi dan 4 hari pasca operasi, serta penilaian luaran klinis dengan *Glasgow Outcome Score* (GOS) pada 6 bulan pasca operasi. Didapatkan hasil analisa dengan metode *Pearson chi-square*, mortalitas pada kelompok Kraniotomi, n=12 (63,2 %), lebih tinggi dibandingkan dengan kelompok Neuroendoskopi n=7 (36,8%), secara statistik bermakna ($p<0,005$). Jumlah pasien hidup pada kelompok Neuroendoskopi dengan nilai GOS 3-5 lebih banyak, n=18 (75%) daripada pasien dengan tindakan Kraniotomi n=6 (25%). Hasil analisis statistik dengan *Wilcoxon test* didapatkan kadar IL-6 delta, cairan serebrospinal pre-pasca operasi, didapatkan hasil secara statistik bermakna ($z=-2,575$; $p<0,010$). Angka kesintasan dengan metode *Kaplan Meier* didapatkan hasil statistik bermakna, pasien Neuroendoskopi dapat bertahan sampai 6 bulan. Didapatkan *Median Survival time* pada kelompok Kraniotomi hanya 10 hari, hal ini tidak didapatkan pada kelompok Neuroendoskopi.

Kesimpulan:

Penanganan Perdarahan Intracerebral Spontan dengan tindakan Neuroendoskopi lebih aman dan mempunyai kesintasan lebih lama dibandingkan dengan tindakan Kraniotomi.

Kata kunci: Neuroendoskopi, Kraniotomi, Perdarahan Intracerebral Spontan. GOS (*Glasgow Outcome Score*), *Double antibody sandwich* ELISA.

ABSTRACT

Background and purposes:

Neuroendoscopy is one of promising optional treatment for spontaneous intracerebral hemorrhage. Purpose of this study to compare clinical outcomes, changes IL-1 β , IL-6 and NGF levels in cerebrospinal fluid, of patients who underwent evacuation surgery of spontaneous intra-cerebral hemorrhage by Neuroendoscopic intervention and Craniotomy.

Methods:

Randomized control clinical trial was performed by block randomization method during 27 months in 43 spontaneous ICH patients. Twenty-five patients treated with Neuroendoscopy surgery and 18 patients with Craniotomy. The evacuation of spontaneous intra cerebral hemorrhage was done by a Neuroendoscopic technique with transparent sleeve made of silastic material, derived from pieces of thoracic tube No. 21F as a conduit working channel. Cerebrospinal fluid IL-1 β , IL-6 and NGF levels was examined and measured by a double antibody sandwich ELISA, pre and 4 days post operatively.

Results:

We analyzed statistically IL-1 β , IL-6 and NGF levels in cerebrospinal fluid pre operative and 4 days post operative, clinical outcome assessment by Glasgow Outcome Score 6 months post operative follow-up period. The mortality rate was significantly higher by Pearson chi-square methods, in Craniotomy group $n=12$ (63.2%) compared with Neuroendoscopy group, $n=7$ (36.8%) ($p<0.005$). Patients with Glasgow Outcome Score score 3–5 was higher in Neuroendoscopy group, $n=18$ (75%) compared with Craniotomy group $n=6$ (25%). We analyzed by Wilcoxon test, found that cerebrospinal fluid IL-6 delta level post treatment was statistically significant ($z=-2.575$; $p=0.010$). The survival rate by Kaplan Meier methods was performed, found that patients in the Neuroendoscopy group were a significantly longer survival rate compared with the Craniotomy group during 6 months post operative follow-up period. The median survival time of patients in the Craniotomy group was 10 days only, it was not found in the Neuroendoscopy group.

Conclusions:

Treatment of spontaneous intracerebral hemorrhage with Neuroendoscopy intervention was safer and and have a longer survival rate compared with Craniotomy.

Key words: *Neuroendoscopy, Craniotomy, Spontaneous Intracerebral Hemorrhage Glasgow Outcome Score, Double antibody sandwich ELISA.*