

# Analisis Luaran Klinis dan Fungsional Pasien Cedera Pleksus Brachialis Traumatik Pasca Tindakan Pembedahan Saraf dan Otot di RSUPN Cipto Mangunkusumo periode 2010-2017 = Clinical and Functional Outcome Analysis in Patients with Traumatic Brachial Plexus Injury After Nerve and Muscle Procedure in Cipto Mangunkusumo Hospital 2010-2017

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## Abstrak

**Pendahuluan:** Cedera pleksus brachialis traumatik merupakan cedera pada ekstremitas atas yang menimbulkan disabilitas motorik dan sensorik yang berakhir pada penurunan kualitas hidup. Prosedur pembedahan saraf atau otot masih menjadi terapi pilihan untuk menangani cedera pleksus brachialis, akan tetapi belum menunjukkan hasil yang memuaskan. Penelitian mengenai luaran pasien dengan cedera pleksus brachialis traumatik pasca prosedur pembedahan, khususnya di Indonesia, belum pernah dilakukan. Prosedur pembedahan cedera pleksus brachialis di RSUPN dr. Cipto Mangunkusumo sudah berlangsung sejak tahun 2010, namun belum ada hasil luaran yang terdokumentasikan dengan baik. Studi ini diharapkan menjadi gambaran awal mengenai hasil luaran klinis dan fungsional pasien cedera pleksus brachialis setelah dilakukan tindakan pembedahan.

**Metode:** Penelitian ini merupakan studi analitik observasional dengan metode potong lintang. Data pasien diambil minimum follow up 6 bulan pasca pembedahan. Luaran klinis dinilai dengan mengukur kekuatan motorik (Medical Research Council Scale) dan ruang lingkup gerak dari sendi abduksi bahu dan fleksi siku. Luaran fungsional dinilai melalui sistem skoring Disabilities of the Arm, Shoulder, and Hand (DASH). Analisis bivariat dan multivariat dilakukan untuk mencari hubungan antara berbagai faktor (usia, jenis kelamin, penyebab cedera, awitan cedera, tipe cedera, tindakan pembedahan, rehabilitasi) dengan luaran klinis dan fungsional (skor DASH dan perubahan skor DASH).

**Hasil Penelitian:** Sebanyak 67 dari 139 pasien cedera pleksus brachialis traumatik yang menjalani pembedahan di RSUPN Cipto Mangunkusumo periode 2010-2017 dimasukkan ke dalam penelitian dengan rerata waktu follow up 28 bulan pasca pembedahan. Laki-laki (82,2%) dengan nilai rerata usia 26 tahun dengan penyebab cedera tumpul karena kecelakaan lalu lintas. Tipe cedera terbanyak adalah postganglionik tipe total (56,7%). Sebagian besar subjek (65,7%) menjalani rehabilitasi. Rerata skor DASH 71,7 dengan perubahan skor DASH sebesar 17,5.

**Diskusi:** Luaran klinis dan fungsional pada pasien cedera pleksus brachialis traumatik baik dipengaruhi oleh awitan cedera, tipe cedera, jenis tindakan pembedahan, dan rehabilitasi pasca pembedahan. Analisis multivariat menunjukkan bahwa rehabilitasi menjadi faktor prediktor terhadap seluruh luaran klinis, sementara rehabilitasi dan tipe cedera dapat digunakan untuk memprediksi skor DASH.

.....Introduction: Traumatic brachial plexus injury (TBPI) is a disease that cause disability in motoric and sensory upper extremity that leads to decrease in quality of life. Nerve or muscle surgeries are still the treatment of choice for treating brachial plexus injury, despite the result is still not satisfying. Study on the outcomes of brachial plexus injury after surgical procedures, especially in Indonesia, has not been conducted. Surgical procedure for brachial plexus injury in RSUPN Dr. Cipto Mangunkusumo has been

performed since 2010, but no study had recorded outcome result yet. This study aim to give a brief clinical and functional outcome of patient with brachial plexus injury after surgical procedure.

Methods: We performed an observational analytic study using cross-sectional method. Data was taken with minimum follow up 6 months after surgery. Clinical outcome was measured with motoric strength using Medical Research Council Scale and range of motion shoulder abduction and elbow flexion. Functional outcome was assessed through DASH scoring. Bivariate and multivariate analysis was performed to find relationships between various factors (age, sex, injury onset, type of injury, type of surgery, rehabilitation) and clinical and functional outcomes (DASH score and change in DASH score).

Results: A total of 67 from 139 traumatic brachial plexus injury patients had surgery at Cipto Mangunkusumo General Hospital from 2010-2017 with mean of follow up for 28 months. Male contributed major patient (82.2%) and had median age of 26 years. The most common type of brachial plexus injury was postganglionic total type (56.7%). Most subjects (65.7%) underwent rehabilitation. Mean DASH score was 71,7 with DASH score changed 17,5.

Discussion: Clinical and functional outcomes in TBPI patients who underwent surgery were influence with onset, type of TBPI, choice of surgery performed, and rehabilitation after surgery. Multivariate analysis showed rehabilitation is the main predictor factor in determine clinical outcome. Rehabilitation and type of injury can be predicted for DASH score. Multivariate analysis showed that rehabilitation was predictive of shoulder abduction ROM and motoric function, and also elbow flexion ROM and motoric function. Rehabilitation and type of injury can be used to predict DASH scores.