

# Hubungan letak ujung tunnel cuffed catheter vena jugularis interna sebagai akses hemodialisis dengan kejadian terduga catheter related bacteremia dan faktor risiko terkait di RSUPNCM periode 2018-2019 = Correlation between Internal Jugular Vein Tunneled Cuffed Catheter Tip Location as Hemodialysis Access with Suspected Catheter Related Bacteremia and Related Risk Factors in RSUPN dr. Cipto Mangunkusumo

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## Abstrak

Pendahuluan: KDOQI menyebutkan infeksi adalah komplikasi utama terkait penggunaan kateter akses hemodialisis jangka panjang. KDOQI merekomendasikan pemasangan kateter vena tunneling (TCC) hemodialisis pada vena jugularis interna (VJI) kanan dengan posisi ujung TCC ditempatkan di atrium kanan dan bukaan lumen arteri menghadap ke mediastinum. Berdasarkan penelitian yang dilakukan angka catheter related bacteremia (CRB) sebesar 35% pada pemakaian 3 bulan dan 54% untuk pemakaian 6 bulan. Posisi ujung TCC akses hemodialisis VJI kiri mempunyai pengaruh terhadap kejadian disfungsi dan infeksi dibandingkan jika terpasang di sisi kanan.

Metode: Dilakukan studi cross sectional dengan 62 subjek pasien hemodialisis menggunakan akses TCC VJI. Dicari hubungan antara posisi pemasangan TCC, posisi ujung TCC dan faktor risiko dengan kejadian terduga CRB menggunakan uji Chi Square dengan nilai  $p < 0,05$  dianggap bermakna secara statistik dan penghitungan odd ratio (OR) interval kepercayaan 95%. Diambil data posisi pemasangan TCC, posisi ujung TCC, terduga CRB serta karakteristik berupa usia, jenis kelamin serta status DM di RSCM Januari 2018 sampai Januari 2019.

Hasil: Enam puluh dua subjek yang dilibatkan dalam penelitian ini 45 orang (72,6%) berusia 60 tahun kebawah. Empat puluh satu subjek (66,1%) berjenis kelamin pria. Lima belas subjek menderita DM (24,2%). Posisi ujung TCC yang didapatkan dari 62 subjek tersebut, 39 (62,9%) berada di VKS, 2 (3,2%) pada CAJ

dan 21 (33,9%) pada atrium kanan. Dari 62 subjek tersebut 22 (35,48%) diantaranya mengalami kejadian terduga CRB. Tidak didapatkan hubungan yang bermakna antara posisi ujung TCC VJI dengan kejadian terduga CRB ( $p = 0,92$ , OR 1,05 dengan IK 95% = 0,35 – 3,08). Usia, jenis kelamin, dan status DM tidak merupakan faktor risiko bermakna secara statistik berhubungan dengan kejadian terduga CRB.

Kesimpulan: Studi ini mendapatkan hasil tidak ada hubungan kemaknaan posisi ujung TCC dan faktor risiko diteliti dengan kejadian terduga CRB.

.....Introduction: KDOQI stated infection is the main complication of long-term catheter use as hemodialysis access. KDOQI recommends insertion of tunneling venous hemodialysis catheter in the right internal jugular vein (IJV) with the tip placed in the right atrium and the arterial lumen opening facing the mediastinum. Previous study stated that the number of catheter related bacteremia (CRB) is 35% at 3 months use and 54% at 6 months use. The TCC tip position as hemodialysis access in left IJV is correlated more to dysfunction and infection compared to the right IJV.

Method: A cross-sectional study was conducted with 62 subjects of hemodialysis patients using IJV TCC

access. The correlation between TCC insertion location, TCC tip position, and risk factors with suspected CRB was analyzed using Chi Square Test. A p value  $<0.05$  was considered statistically significant. The odds ratio (OR) with 95% confidence interval was analyzed. The data of TCC insertion location, TCC tip position, suspected CRB incidence, and subject's characteristics including age, sex, and DM status were gathered in RSCM from January 2018 to January 2019.

Results: Within 62 subjects included in this study 45 (72,6%) were 60 y.o or less. Forty one (66,1%) subjects were male. Fifteen had DM as comorbid (24,2%). Thirty nine TCC tip position were in SVC (62,9%), 2 were in CAJ (3,2%) and 21 were in (33,9%)RA. Twenty two from 62 had suspected CRB (35,48%). There is no significant correlation between TCC tip position with suspected CRB incidence ( $p = 0.92$ , OR 1,05, 95% CI = 0.35 – 3.08). Age, sex, and DM status were not statistically proven as risk factors of suspected CRB.

Conclusion: There is no significant correlation between TCC tip position and studied risk factors with suspected CRB.