



INTISARI

Latar Belakang:

Anestesi spinal adalah teknik anestesi umum dalam prosedur bedah yang sering mengalami kesulitan pada beberapa pasien. Penelitian ini bertujuan untuk mengidentifikasi faktor-faktor prediktif yang berhubungan dengan kesulitan dalam pemberian anestesi spinal.

Metode:

Penelitian ini menggunakan desain observasional analitik prospektif dengan pendekatan potong lintang, melibatkan 418 pasien yang menjalani prosedur anestesi spinal di RSUP Dr. Sardjito pada periode Oktober 2024 hingga Januari 2025. Variabel yang dianalisis meliputi usia, IMT, riwayat suntikan spinal sebelumnya, riwayat operasi tulang belakang, visibilitas prosesus spinosus, palpabilitas prosesus spinosus, kelainan anatomi lumbar dan interspinosus L3-4/L4-5 yang dianalisis menggunakan uji Chi-Square dan regresi logistik.

Hasil:

Hasil analisis regresi logistik menunjukkan bahwa visibilitas prosesus spinosus yang buruk meningkatkan kemungkinan kesulitan sebesar 2,21 kali lipat ($P < 0,01$; OR 2,21; CI 1,40-3,47), dan kelainan anatomi lumbar meningkatkan kemungkinan kesulitan sebesar 1,82 kali lipat ($P = 0,01$; OR 1,87; CI 1,16-3,02) serta interspinosus L3-4 lebih sulit dibandingkan interspinosus L4-5 sebesar 2,08 kali lipat ($P < 0,01$; OR 2,08; CI 1,32-3,28). Meskipun terdapat hasil signifikan pada analisis bivariat, IMT tinggi, IMT sedang, riwayat suntikan berulang dan palpabilitas prosesus spinosus tidak menunjukkan pengaruh independen terhadap kesulitan prosedur.

Pembahasan:

Faktor-faktor seperti visibilitas prosesus spinosus, kelainan anatomi lumbar dan interspinosus L3-4/L4-5 terbukti berhubungan dengan kesulitan dalam prosedur anestesi spinal. Hasil ini sejalan dengan temuan-temuan sebelumnya yang menunjukkan bahwa visibilitas prosesus spinosus, kelainan anatomi lumbar dan interspinosus L3-4/L4-5 memengaruhi keberhasilan anestesi spinal. Penelitian ini juga menunjukkan bahwa meskipun faktor usia dan riwayat operasi tulang belakang sebelumnya tidak berpengaruh signifikan terhadap penyulit anestesi spinal.

Kesimpulan:

Faktor yang mempengaruhi kesulitan anestesi spinal adalah visibilitas prosesus spinosus, kelainan anatomi lumbar dan interspinosus L3-4/L4-5.

Kata Kunci:

faktor prediktif, sulit spinal, anestesi spinal.



ABSTRACT

Introduction:

Spinal anesthesia was a commonly used anesthetic technique in surgical procedures, but its administration was often challenging in certain patients. This study aimed to identify predictive factors associated with difficulties in spinal anesthesia administration.

Methods:

This study employed a prospective analytical observational design with a cross-sectional approach, involving 418 patients who underwent spinal anesthesia procedures at Dr. Sardjito General Hospital between October 2024 and January 2025. The analyzed variables included age, BMI, history of previous spinal injections, history of spinal surgery, visibility of the spinous process, palpability of the spinous process, lumbar anatomical abnormalities, and interspinous L3-4/L4-5 characteristics. The data were analyzed using the Chi-Square test and logistic regression.

Results:

Logistic regression analysis indicated that poor visibility of the spinous process increased the likelihood of difficulty by 2.21 times ($P < 0.01$; OR 2.21; CI 1.40-3.47), lumbar anatomical abnormalities increased the likelihood by 1.87 times ($P = 0.01$; OR 1.87; CI 1.16-3.02), and the L3-4 interspinous space was 2.08 times more difficult to access compared to the L4-5 interspinous space ($P < 0.01$; OR 2.08; CI 1.32-3.28). Although significant results were observed in the bivariate analysis, high BMI, moderate BMI, history of repeated spinal injections, and spinous process palpability did not demonstrate an independent effect on procedural difficulty.

Discussion:

Factors such as poor spinous process visibility, lumbar anatomical abnormalities, and interspinous L3-4/L4-5 characteristics were found to be associated with difficulties in spinal anesthesia administration. These findings were consistent with previous studies indicating that spinous process visibility, lumbar anatomical abnormalities, and interspinous characteristics influenced the success of spinal anesthesia. This study also revealed that although age and a history of previous spinal surgery were analyzed, they did not significantly contribute to procedural difficulty.

Conclusion:

The factors influencing the difficulty of spinal anesthesia were poor spinous process visibility, lumbar anatomical abnormalities, and interspinous L3-4/L4-5.

Keywords:

difficult spinal, predictive factors, spinal anesthesia.