

Pengaruh Karakteristik Tumor dan Embolisasi Preoperatif terhadap Jumlah Perdarahan Intraoperatif pada Pasien Juvenile Nasopharyngeal Angiofibroma di Rumah Sakit Umum Pusat Nasional Cipto Mangunkusumo = Effect of Tumor Characteristics and Preoperative Embolization on the Amount of Intraoperative Bleeding in Juvenile Nasopharyngeal Angiofibroma in Cipto Mangunkusumo National Hospital

Samuel Raymond Rumantir Wardhana, author

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Abstrak

Latar belakang: Juvenile Nasopharyngeal Angiofibroma (JNA) merupakan tumor jinak nasofaring yang bersifat hipervaskular, agresif lokal, dan destruktif. Pencitraan sebelum pembedahan untuk menentukan ukuran dan perluasan tumor, serta embolisasi preoperatif dapat mempengaruhi jumlah perdarahan intraoperatif, yang merupakan salah satu faktor morbiditas pada pasien JNA. Penelitian ini bertujuan untuk menilai pengaruh karakteristik tumor antara lain ukuran tumor, staging, dan pembuluh darah yang memperdarahi tumor, serta efek dari embolisasi preoperatif terhadap jumlah perdarahan intraoperatif.

Metode: Penelitian dilakukan pada pasien JNA yang menjalani embolisasi preoperatif dan operasi pengangkatan tumor di Rumah Sakit Umum Pusat Nasional Cipto Mangunkusumo sejak tahun 2018 hingga Maret 2022. Dilakukan penilaian ukuran tumor dan staging, serta identifikasi feeding artery menggunakan CT/MRI dan juga DSA embolisasi preoperatif, kemudian dilakukan analisis perbandingan dan korelasi terhadap jumlah perdarahan intraoperatif.

Hasil: Terdapat 21 pasien JNA yang menjalani embolisasi preoperatif dan pengangkatan tumor. Didapatkan perbedaan jumlah perdarahan intraoperatif yang bermakna antara pasien JNA stadium III dibandingkan dengan stadium I-II ($p=0,006$). Jumlah perdarahan intraoperatif lebih banyak pada tumor yang berukuran lebih besar, namun didapatkan korelasi yang lemah ($R=0,43$; $p=0,051$). Jumlah perdarahan intraoperatif juga berbeda bermakna pada tumor JNA dengan feeding artery dari kedua sisi arteri maksilaris interna dengan tumor JNA yang mendapatkan feeding artery satu sisi arteri maksilaris interna saja ($p=0,009$), serta keterlibatan feeding artery dari cabang arteri karotis interna ($p=0,023$). Persentase pembuluh darah yang dilakukan embolisasi preoperatif, juga mengurangi jumlah perdarahan intraoperatif ($R=-0,36$; $p=0,113$).

Kesimpulan: Pencitraan preoperatif pada pasien JNA memegang peranan penting dalam menentukan perluasan tumor (staging), ukuran tumor, dan feeding artery yang berpengaruh terhadap jumlah perdarahan intraoperatif pada pasien JNA. Tindakan embolisasi preoperatif juga memiliki peranan penting dalam mengurangi jumlah perdarahan intraoperatif

.....Background: Juvenile Nasopharyngeal Angiofibroma (JNA) is a benign tumor of the nasopharynx that is hypervascular, locally aggressive, and destructive. Imaging before surgery to determine the size and extent of the tumor, as well as preoperative embolization can affect the amount of intraoperative bleeding, which is one of the morbidity factors in JNA patients. This study aimed to assess the effect of tumor characteristics such as tumor size, staging, and blood vessels supplying the tumor, as well as the effect of preoperative embolization on the amount of intraoperative bleeding.

Methods: The study was conducted on JNA patients who underwent preoperative embolization and surgical

removal of tumors at the Cipto Mangunkusumo National General Hospital from 2018 to March 2022. Tumor size and staging were assessed, as well as identification of feeding arteries using CT/MRI and DSA preoperative embolization, then we performed a comparative and correlation analysis of the amount of intraoperative bleeding.

Results: There were 21 JNA patients who underwent preoperative embolization and tumor removal. There was a significant difference in the amount of intraoperative bleeding between patients with stage III JNA compared to stage I-II ($p = 0.006$). The amount of intraoperative bleeding was higher in larger tumors, but a weak correlation was found ($R=0.43$; $p=0.051$). The amount of intraoperative bleeding was also significantly different in JNA tumors with feeding arteries from both sides of the internal maxillary artery compared to JNA tumors with feeding arteries on one side of the internal maxillary artery only ($p=0.009$), and the involvement of feeding arteries from the internal carotid artery branch ($p=0.023$). The percentage of vessels that underwent preoperative embolization also reduced the amount of intraoperative bleeding ($R=-0.36$; $p=0.113$).

Conclusion: Preoperative imaging in JNA patients plays an important role in determining tumor expansion (staging), tumor size, and feeding arteries that affect the amount of intraoperative bleeding in JNA patients. Preoperative embolization also have an important role in reducing the amount of intraoperative bleeding.