

ABSTRACT

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Incidence, and preoperative and intraoperative prognostic factors of deep venous thrombosis in patients with glioma following craniotomy.

Shi S(1), Cheng J(2), Zhao Y(3), Chen W(4).

Author information:

(1)Department of Critical Care Medicine, Capital Medical University Affiliated Beijing Shijitan Hospital, 100038, Beijing, China.

(2)Department of General practice medicine, Beijing Shijingshan Hospital, 100040, Beijing, China.

(3)Department of Critical Care Medicine, Sanbo Brain Hospital, Capital Medical University, 100093, Beijing, China.

(4)Department of Critical Care Medicine, Capital Medical University Affiliated Beijing Shijitan Hospital, 100038, Beijing, China. Electronic address: cwicu@bjsjth.cn.

OBJECTIVES: The aim of this study was to investigate the incidence of deep vein thrombosis (DVT) and the preoperative and intraoperative risk factors associated with DVT in glioma patients.

METHODS: We conducted a retrospective analysis of data obtained from glioma patients at Sanbo Hospital (Beijing, China) between 2018 and 2021. Symptomatic DVT was confirmed by Doppler ultrasonography. Multivariable logistic regression analysis was used to identify preoperative and intraoperative characteristics associated with DVT. Basic clinical variables and laboratory results were analyzed.

RESULTS: A total of 492 glioma patients were included. Of these, 73 (14.84%) developed DVT, and three (0.61%) developed DVT and pulmonary embolism (PE). Multivariate analyses revealed that the following factors were highly predictive of post-operative DVT: older age ranges of 46--55 years (odds ratio [OR]: 2.94; 95% confidence interval [CI]: 1.41--6.13; $p = 0.004$), 56--65 years (OR: 7.86; 95% CI: 3.63--17.03; $p < 0.001$), and > 65 years (OR: 4.94; 95% CI: 1.83--13.33; $p = 0.002$); partial thromboplastin time (APTT; OR: 0.91; 95% CI: 0.84--1.00; $p = 0.040$); D-dimer (OR: 2.21; 95% CI: 1.28--3.82; $p = 0.005$); and surgery duration (OR: 2.87; 95% CI: 1.6 --5.07; $p < 0.001$).

CONCLUSIONS: Older age, preoperative APTT, D-dimer, and surgery duration independently increased the risk of developing postoperative DVT. These findings may facilitate the development of a thrombosis risk score that will allow physicians to develop individualized strategies to prevent DVT as early as possible.

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