

**Introduction** In surgical treatment of spinal tumors, perioperative complication is more common than in other spinal operations. Among the perioperative complications, venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary thromboembolism (PTE) is deleterious complication that can be fatal. However, the prevalence and underlying risk factors for VTE after spinal tumor surgery are still not well defined. **Methods** Between 2008 and 2015, a total of 103 consecutive patients undergoing surgery for spinal tumors with postoperative screening for DVT/PTE were reviewed. All patients received mechanical prophylaxis, including compression stockings and intermittent pneumatic compression devices from induction of general anesthesia to postoperative ambulation. No anticoagulation medications were used for prophylaxis against VTE. All patients were examined with duplex ultrasonography of both lower extremities to check DVT. Furthermore, to screen PTE, all patients also underwent lung perfusion scintigraphy or multidetector computed tomography. All examination was performed 7-10 days after surgery. In this study, we evaluated the relationship between postoperative VTE and following factors: age, sex, height, weight, body mass index, location of tumor, type of tumor (primary or metastasis), type of operation (excisional surgery or palliative surgery), surgical approach (posterior or combined), operative time, intraoperative blood loss, perioperative transfusion, amount of transfusion, duration of postoperative bed rest (<7 days or >7 days), preoperative paralysis and postoperative neurological worsening. **Results** The present study included data from 96 eligible patients. The overall prevalence of VTE was 25.0% (24/96). The rate of DVT and PTE were 20.8% (20/96) and 6.3% (6/96), respectively. No patient had symptomatic DVT, and only one patient had symptomatic PTE. Of 24 VTE-positive patients, distal DVT only was identified in 14 (58.3%), proximal DVT only was identified in 4 (16.7%), PTE only was identified in 4 (16.7%), and both PTE and DVT were identified in 2 (8.3%). In univariate analysis, duration of postoperative bed rest was significantly longer in VTE groups than that in non-VTE groups (P=0.03). In multivariate logistic regression analysis, only prolonged duration of postoperative bed rest was significant independent risk factor for postoperative VTE (Odds ratio, 3.22; P=0.036). **Conclusion** The prevalence of VTE after spinal tumor surgery is 25.0%. Prolonged duration of postoperative bed rest was a significant risk factor for developing VTE in spinal tumor surgery. No DVT was found in 4 of 6 patients with positive PTE, suggesting screening for PTE itself is also needed in the high-risk cases of VTE.