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TUMOR BIOLOGY AND HUMAN GENETICS

Tinzaparin prophylaxis in brain tumor patients

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Abstract

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Background: Thromboembolic disease is the second leading cause of death in brain tumor patients. Various studies have documented a 20–40% risk of deep vein thrombosis and / or pulmonary embolus in brain tumor patients. When used as prophylaxis, Tinzaparin, a low molecular weight heparin with factor Xa activity, has a low complication rate and low incidence of bleeding complications. With the anticipated benefit exceeding any risk, prophylaxis with Tinzaparin may be safe and effective. **Methods:** A phase II trial of prophylactic tinzaparin for newly diagnosed brain tumor patients has completed accrual at 40 patients. A fixed daily dose of 4500 IU subcutaneous tinzaparin was given beginning a minimum of 48 hours post-operatively and a maximum of 4 weeks post-operatively. Patients consented to take tinzaparin daily for 12 months. Weekly blood counts were monitored during chemotherapy cycles. Tinzaparin was held if platelet count was <50,000 and resumed once the platelets were >100,000. Tinzaparin was discontinued in patients who began treatment with avastin. **Results:** Of 40 patients, 7 remain on treatment. Patients have taken tinzaparin for 4–52 weeks with a median of 21 weeks. One of the patients developed a grade 3 CNS hemorrhage and one had a grade 1 CNS hemorrhage, necessitating cessation of the tinzaparin, there have been no grade 4 or 5 CNS hemorrhages or treatment associated mortality. No patients developed = grade 2 systemic hemorrhages. One patient developed a deep venous thrombosis while taking tinzaparin, and three patients developed thromboembolic complications while off tinzaparin secondary to thrombocytopenia. One patient was taken off study for increased liver function tests, possibly secondary to tinzaparin. **Conclusions:** Thus far, daily prophylactic tinzaparin has proven safe and effective in decreasing the incidence of thromboembolic disease in brain tumor patients. We plan a phase III study upon the safe completion of the last 7 patients on this phase II study.

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