Eligibility for pre-operative autologous donation by brain tumor patients who had a recent seizure

A transfusion medicine physician and medical director of a hospital-based blood bank and donor center in Southern California reports that neurosurgeons at his facility typically request that brain tumor patients donate one or two units of autologous blood in advance of brain tumor surgery. However, if the patient has recently experienced a **seizure**, the inquiring physician's **current hospital policy requires that the patient must be deferred for at least three months** before they can make an autologous blood donation. The neurosurgery staff at the inquiring colleague's institution have asked that the hospital's donor center re-evaluate their current three-month deferral policy following a seizure, since most of the patients who present with seizures secondary to brain tumors typically have their surgery within **one month** of the initial seizure, and the current policy essentially excludes these patients as autologous blood donors.

The following responses have been received.

ADDENDA Dec. 1, 2003

1. **A transfusion medicine physician in Detroit** reports that in her experience, **drawing autologous blood from patients with seizures has not been an overly risky proposition**. She bases this opinion on 3 years experience at an institution where autologous blood was collected from patients scheduled to have surgical procedures to ablate seizure foci. These neurosurgical procedures were long and required electrode "mapping" of the brain to locate the exact area to ablate, so patients could lose a fair amount of blood. Most of the patients had intractable seizures which were unresponsive to medication. The Detroit physician had the same concerns as the California colleague who initiated this e-Network Forum discussion, and to address these concerns, her hospital had Neurosurgery nursing staff come to the donor room to give the phlebotomy team an inservice on management of patients in the event of a seizure, including what and what not to do in the event that a seizure occurred at the time of donation. This also provided a contact for communication between the blood bank and neurosurgery about any issues/problems that might be encountered. In addition, autologous collections were scheduled ONLY when there would be a physician immediately available to the donor area. The patients were kept for about 30 minutes after the donation, during which they were very well hydrated, and only released if they felt 'OK'. The day after autologous donation, the donor room head nurse would call the patient at home to check on their status. Following this approach, **NO patients experienced seizures during or after an autologous donation, and there were no reports of seizures 24 hours after donation.** The reporting physician cannot rule out that this experience is merely good fortune, because the number of individuals studied was only about 30-40 over a 3-year period. She adds that, in her opinion, if a patient has a CNS malignancy, **one should have a serious discussion with the neurosurgeons regarding the risk/benefit ratio of autologous blood in this setting**. With the risk of donor blood quite minimal compared to the risks the patient faces from their disease and therapy, the Detroit physician would have questions about collateral risk, ie, subjecting the patient to a small but real risk of having a seizure during donation (and possible injury) in order to minimize a miniscule risk from donor blood.

2. **A transfusion medical director at a prestigious academic center in California**, where the mascot is a bear cub, reports that her center collects autologous blood from people with seizure disorders. Often these donors have had seizures within days or hours of their donation. Many of these patients are having surgery specifically because they have intractable seizure disorders. She feels **confident about drawing autologous blood from these patients so long as the patients are able to tell the donor room personnel when they feel that a seizure is coming on, and so long as the seizures do not typically involve the arm that is to be**

used for the phlebotomy. The patient-donor is informed of the risk of making such an autologous donation prior to the phlebotomy, and is asked to participate in his/her care by informing the donor room staff if they feel any aura. The staff closely monitor the donor during and after the donation. The reporting physician has yet to see an unsuccessful donation due to a seizure, even in these relatively high risk patients. She would be inclined to defer someone who has frequent/recent grand mal seizures that are not preceded by some type of aura.

ADDENDA Dec. 2, 2003

3. **Dr. Ronald Domen**, Medical Director, Blood Bank and Transfusion Medicine at the Milton S. Hershey Medical Center at Penn State University College of Medicine (attribution used with permission) reports that the **results of a study** that he conducted were presented at the AABB meeting in 1997 (Transfusion 1997;3725S, abstract S100). According to his data, a total of 139 patients with severe medically refractory epilepsy (73% for non-neoplastic conditions, and 27% for benign or malignant neoplasms) undergoing neurosurgery were studied. Fifty-two patients (52/139) made 54 autologous blood donations. There were no complications observed and the patients tolerated the donations well. However, only 8 of the autologous units were subsequently transfused. Twenty of the non-donating patients received allogeneic blood. Overall, autologous blood donation was felt to be safe in this patient population, but subsequent transfusion was minimal. Dr. Domen comments that **he would argue against a strict policy of not allowing blood donation in patients undergoing neurosurgery for intractable seizures**.

ADDENDA Dec. 3, 2003

4. **The Chief Medical Officer at a blood center in Texas** reports that his center allows autologous donors with history of recent seizures to donate if: 1) the donor understands that they may have a seizure during donation and are willing to proceed, 2) the donor is accompanied by another person that could drive them home if they were post-ictal, and 3) the blood center medical director gives approval.

ADDENDA Aug. 30, 2007

5. **A transfusion medicine physician located at a University Hospital in Buenos Aires-Argentina** was recently consulted regarding a prospective volunteer blood donor who was taking **Oxcarbazepine for Epilepsy**. As Krumholz A et al concluded in a study on 329,143 donations published in Transfusion (1995; 35 (6): 470-4), "individuals with seizures or epilepsy are not at greater risk for adverse reactions after blood donation". For that reason the Argentinean physician **believes that the donor could have donated**. He also looked at the list of drugs from the 13th. Ed. of the AABB *Technical Manual* and Oxcarbazepine was not there. However, because the donor had taken the drug early on the morning before the donation, it was decided not to accept him. The inquiring colleague wants to know if anyone has data (one way or the other) **if the drug could do harm to a transfusion recipient**, assuming there would have been detectable blood levels of the drug in the donor?

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Please submit comments to the e-Network Forum.

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Addenda: Dec. 1, 2 & 3, 2003; Aug. 30, 2007