A man presenting headache and photophobia while receiving BEP chemotherapy

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A 31-year old man with a right testicular mass was evaluated at the urology department. Scrotal ultrasound revealed a right hypervascolarized testicular mass of 8,5cm. Alpha fetoprotein and bHCG were elevated at 821kU/l (N<5kU/l) and 8200U/l (N<5U/l) respectively. The thoracic-abdominal computed tomography scan showed an enlarged retroperitoneal lymph node of 32mm (Figure 1). The past medical history was notable for a right orchidopexie at age of 5 years and an Asperger syndrome, an autism spectrum disorder that is characterized by significant difficulties in social interaction, along with restricted and repetitive patterns of behavior and interests. It differs from other autism spectrum disorders by its relative preservation of linguistic and cognitive development.
The patient underwent an inguinal and scrotal orchidectomy. Tumor markers descended significantly but did not normalize; the patient was considered a stage II, «good prognosis» metastatic germ cell tumor (IGCCCG prognostic grouping classification) and scheduled according to the European Consensus Guideline for 3 cycles of bleomycin, etoposide and cisplatin (BEP)[1,2]. Just before the 2nd cycle, the patient complained about nausea and headache with photophobia. Physical exam was unremarkable with the exception of moderate scleral injection. A viral infection was suspected. These symptoms improved during the second course of chemotherapy but the patient presented a generalized seizure while leaving the hospital on day 5. Urgent CT and MRI scan showed a cerebral sinus thrombosis and ruled out brain metastasis (Figure 2). No smoking history or cardiovascular risk factors were identified and further investigations ruled out heart disease and coagulopathy. Anticoagulation and anti-convulsant treatments were introduced. The patient completed his chemotherapy at full dose archiving complete remission.

Discussion

BEP is the cornerstone in the management of metastatic germ cell tumors. Acute toxicities are tiredness, leucopenia, nausea, alopecia, neuropathie and kidney deficiency due to cisplatine. Thrombotic occlusions of peripheral arteries during chemotherapy have been reported in a number of patients with germ cell cancer.[3-6] Only few cases with cerebral venous sinus thrombosis during chemotherapy have been reported and none to our knowledge did involve patients with testicular germ cell tumor.[7]
Cerebral vein and dural sinus thrombosis (CVT) are less common than most other types of stroke. Large sinuses such as the superior sagittal sinus are most frequently involved. Extensive collateral circulation within the cerebral venous system allows for a significant degree of compensation in the early stages of thrombus formation. Systemic inflammatory diseases and inherited as well as acquired coagulation disorders are frequent causes, although in up to 30% of cases no underlying cause can be identified. The spectrum of clinical presentations ranges from headache with papilloedema to focal deficit, seizures and coma, and it's more common in women than men, with a female to male ratio of 3:1.

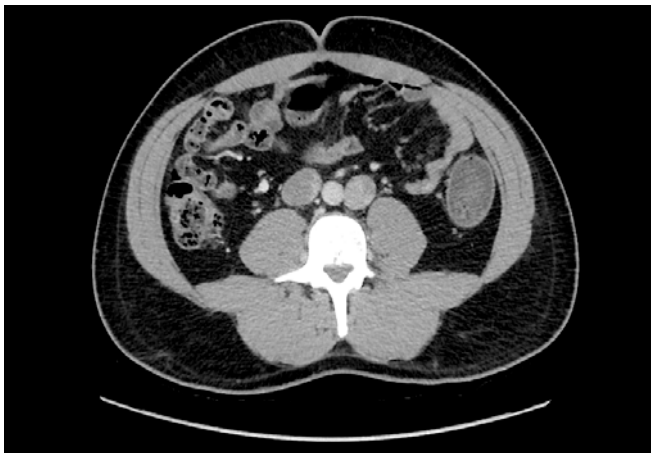

Figure 1: Retro-peritoneal lymph node methastasis.

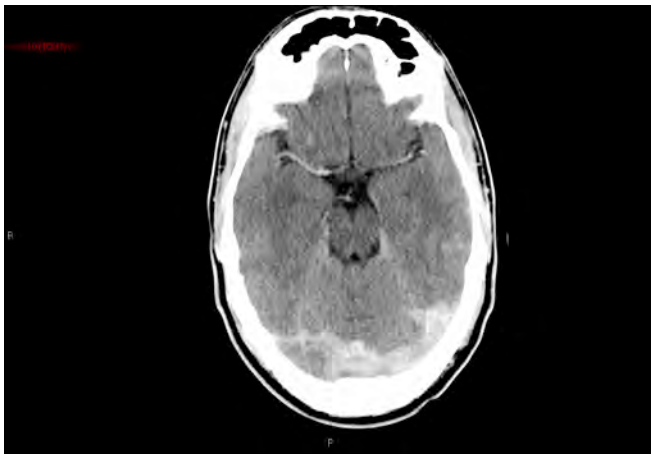

Figure 2: Cerebral sinus thrombosis

Cardiovascular risk factors, such as smoking and pre-existing arterial disease, are frequently mentioned as risk factors for the development of thromboembolic events cancer patients. Furthermore, several other mechanisms have been hypothesized, including high dose cortisteroids, cisplatin-related, several mutations (factor V Leiden and prothrombin).[8,9]

It is known that high doses of corticosteroids (≥ 80 mg dexamethasone per cycle) are independent risk factors for the development of thromboembolic events in germ cell cancer patients undergoing chemotherapy. This is in agreement with several reports about the hypercoagulable state and the occurrence of thromboembolic events of patients with Cushing's syndrome.[10] Various mechanisms contribute to the hypercoagulability induced by corticosteroids : inhibition of blood fibrinolytic activity and decrease platelet count and levels of the clotting factor VIII/von Willebrand factor complex. Moreover, corticosteroids are known to decrease cerebral blood flow by their direct vasoconstrictive effect on cerebral blood vessels, increase blood pressure, and decrease the clearance rate of activated clotting factors by reticuloendothelial blockade.

Secondary TE events constitute well recognized complication of chemotherapy.[11] Cisplatin have been implicated for the occurrence of venous and arterial thrombotic complications in patients with disseminated germ cell cancer. There are a lot of hypothesis about the mechanism of cisplatin-induced TE events, including cisplatin-related hypomagnesemia, drug-induced damage of the vascular endothelium which would activate the coagulation cascade, and elevation of von Willebrand factor plasma levels.[12] Cisplatin is thought to initiate degenerative processes of vessel walls, thus causing occlusive vascular disease in the long run. All types of arteries may be involved, and there is sound evidence for an excess of myocardial infarctions, arterial hypertension, and cerebral strokes. Recently, a metanalysis showed that cardiovascular complications secondary to cisplatin-based chemotherapy may also occur early during the application of systemic therapy or immediately thereafter. Such complications from cisplatin-based chemotherapy have been encountered in several malignancies, but patients with germ-cell tumors are at higher risk for thrombo-embolic events than patients with non germ-cell tumors while on cisplatin-based chemotherapy and the risk can be predicted by the serum lactate dehydrogenase (LDH) levels and the body surface area.[13]

We reported a young patient with a cerebral venous sinus thrombosis during chemotherapy for germinal cancer. He had no prior history of vascular thrombosis. Investigation for systemic vasculitis, disseminated intravascular coagulation, anticardiolipin antibodies and thrombophilia was negative and the only risk factor for CST identified was the chemotherapy regimen. Although clinical thromboembolism occurs in as many as 11 percent of patients with cancer and is the second leading cause of death in patients with overt malignant disease, there is not enough information available at this time to recommend for or against the use of anticoagulation to prevent VTE in ambulatory cancer patients receiving chemotherapy. The 2007 ASCO guidelines, the 2008 ACCP guidelines, and a 2009 Consensus Statement of major guidelines panels do not recommend routine VTE prophylaxis in ambulatory patients with cancer, except for those with multiple myeloma receiving thalidomide or lenalidomide and chemotherapy or dexamethasone.[14-16] Randomized studies comparing low molecular weight (LMW) heparin to placebo in cancer patients receiving chemotherapy are ongoing, but results from a large randomized controlled study indicated that use of the LMW heparin nadroparin did not significantly improve median overall survival in 503 patients with advanced cancer (prostate, pancreas, non-small cell lung cancer) over those not receiving this agent (13.1 versus 11.9 months, respectively)[17].

Clinicians treating patients with germ cell cancers should be aware about the increased thromboembolic event rate and should have a low threshold to use prophylactic low molecular weight heparin[18].

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NOUVEAUTÉ: Atelier interprofessionnel de psycho-oncologie en français

La Ligue suisse contre le cancer (LSC) et la Société suisse de psycho-oncologie (SSPO) proposent depuis plusieurs années une formation continue interprofessionnelle de psycho-oncologie en langue allemande. Cette année, pour la première fois, un atelier interprofessionnel est proposé en français. L'objectif: sensibiliser différents groupes professionnels actifs dans les soins oncologiques de base aux multiples aspects de la psycho-oncologie, tout en leur permettant d'acquérir de nouvelles connaissances et de désamorcer certaines difficultés. Il s'agit d'offrir aux personnes atteintes de cancer et à leurs proches un soutien psychosocial de qualité.

Intitulé «**Introduction à la psycho-oncologie: éléments clefs**», l'atelier abordera des thèmes comme l'adaptation des patients à la maladie, les troubles psychiatriques les plus fréquents, les bases de la communication avec le patient ainsi que les éléments clefs des interventions psychothérapeutiques.

Lieu et date
Le **8 septembre 2011**, de 8 h 30 à 16 h 45 au Centre hospitalier universitaire vaudois (CHUV), Rue du Bugnon 21, **Lausanne**.

Chargés de cours
Prof. Dr med. Friedrich Stiefel, psychiatre et chef du Service de psychiatrie de liaison, CHUV.
Sonia Krenz, psychologue associée (FSP), Service de psychiatrie de liaison, CHUV.

Public cible
L'atelier s'adresse à un public interdisciplinaire composé de différents spécialistes dans le domaine de l'oncologie: psychologues, médecins, travailleurs sociaux, spécialistes en soins infirmiers, théologiens, etc.

Conditions d'admission
Tous les participants doivent travailler dans un service ou une consultation ambulatoire d'oncologie, en contact direct avec des personnes atteintes d'un cancer.

Coûts
Frais d'inscription: CHF 400.–.

Contact
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