

## Lymphoma: streamlining follow ups

Abrahão Elias Hallack Neto

Universidade Federal de Juiz de Fora - UFJF,  
Juiz de Fora, MG, Brazil

Conflict-of-interest disclosure:

The author declares no competing financial interest

Submitted: 4/22/2013

Accepted: 4/24/2013

### Corresponding author:

Abrahão Elias Hallack Neto  
Departamento de Clínica Médica, Faculdade de  
Medicina, Universidade Federal de Juiz de Fora - UFJF  
Rua: Catulo Breviglieri, s/n - Santa Catarina  
36036-110 Juiz de Fora, MG, Brazil  
Phone: 55 32 4009 5142  
abrahallack@ig.com.br

www.rbhh.org or www.scielo.br/rbhh

DOI: 10.5581/1516-8484.20130049

The follow up of patients with non-Hodgkin Lymphomas (NHL) is based on several factors including the intention of the treatment and the context in which it is carried out, whether in clinical trials or clinical practice. For patients out of clinical trials there seems to be no evidence for the routine use of imaging scans or laboratory tests in the follow up after completing treatment<sup>(1)</sup>.

The clinical history and physical examination are the most important procedures in the monitoring of patients after treatment in the clinical practice<sup>(1)</sup>. Nevertheless many physicians indicate serial imaging scans or use laboratory markers to guide requests for scans.

Lactate dehydrogenase (LDH) has proved to be an important prognostic marker and has been incorporated in prognostic models of NHL at the moment of diagnosis<sup>(2,3)</sup>; it is also often used in the after treatment follow up.

In this issue of the *Revista Brasileira de Hematologia e Hemoterapia* an article entitled "The utility of lactate dehydrogenase in the follow up of patients with diffuse large B-cell lymphoma" demonstrates a clear relationship between LDH levels 1.5-fold above baseline and the relapse of diffuse large B-cell lymphoma (DLBCL)<sup>(4)</sup>.

Despite this finding, the authors considered it an inappropriate marker in the follow up of asymptomatic patients due to its low specificity and low positive and negative predictive values, which would lead to an unnecessary exposure to scans and to increases in cost<sup>(4)</sup>.

These data seem to be moving in the opposite direction of current technology, when the increasingly early and more frequent role of positron-emission tomography (PET-CT) is discussed in the management of lymphomas<sup>(5)</sup>. Although this is the most appropriate method in the final assessment and for the identification of relapse due to the high negative predictive value, the risk of false positive results as well as the risks of excessive exposure to radiation makes its utilization in patient monitoring less interesting<sup>(6)</sup>.

When we imagine that the follow up of patients with lymphoma submitted to serial tomography scans during three to five years of their treatment results in a cumulative dose of over 50 mSv, we note that such management has put the patients at risk with the excessive radiation<sup>(7)</sup>. As well as a chance of less than 2% of an early diagnosis of relapse<sup>(7)</sup>.

Faced with these findings, although the use of laboratory tests and scans are extremely widespread in the clinical practice of patients with asymptomatic lymphoma and normal physical examination, there is no evidence, as of yet in the literature that supports the indication of these complementary exams in the follow up of patients.

Despite the low cost, LDH has not shown to be a useful exam in the follow up of patients with DLBCL in asymptomatic remission<sup>(4)</sup>. Therefore, at present, only the medical history and clinical examination are indeed effective in the follow up after the treatment of patients.

## References

1. Cheson BD, Pfistner B, Juweid ME, Gascoyne RD, Specht L, Horning SJ, Coiffier B, Fisher RI, Hagenbeek A, Zucca E, Rosen ST, Stroobants S, Lister TA, Hoppe RT, Dreyling M, Tobinai K, Vose JM, Connors JM, Federico M, Diehl V; International Harmonization Project on Lymphoma. Revised response criteria for malignant lymphoma. *J Clin Oncol*. 2000;25(5):579-86.
2. A predictive model for aggressive non-Hodgkin's lymphoma. The International non-Hodgkin's lymphoma prognostic factors project. *N Engl J Med*. 1993;329(14):987-94. Comment in: *Engl J Med*. 1994;330(8):574; author reply 574-5.
3. Solal-Celigny P, Roy P, Colombat P, White J, Armitage JO, Arranz-Saez R, et al. Follicular lymphoma international prognostic index. *Blood*. 2004;104(5):1258-65. Comment in: *Blood*. 2005;105(12):4892; author reply 4892-3.
4. William BM, Bongu NR, Bast M, Bociek RG, Bierman PJ, Vose JM, et al. The utility of lactate dehydrogenase in the follow up of patients with diffuse large B-cell lymphoma. *Rev Bras Hematol Hemoter*. 2013;35(3):189-91.
5. Moskowitz CH. Interim PET-CT in the management of diffuse large B-cell lymphoma. *Hematology Am Soc Hematol Educ Program*. 2012;2012:397-401.
6. Hutchings M. How does PET/CT help in selecting therapy for patients with Hodgkin lymphoma? *Hematology Am Soc Hematol Educ Program*. 2012;2012:322-7.
7. Juweid ME, Vose JM. Imaging in early-stage Hodgkin's lymphoma. *N Engl J Med*. 2010;962.