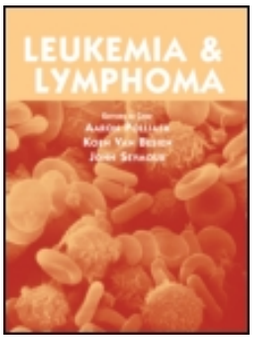

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COMMENTARY

The role of bone marrow biopsy in Hodgkin lymphoma staging: "To be, or not to be, that is the question"?

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The 1989 Cotswold modification of the Ann Arbor staging criteria abandoned the routine use of invasive procedures such as explorative laparotomy for Hodgkin lymphoma (HL) staging, in the wake of improved imaging diagnostics with computed tomography (CT). Routine bone marrow biopsy (BMB) was restricted to patients with CT-assessed stage III/IV disease or stage II disease with adverse "unfavorable" factors, and only if a positive finding would alter the therapeutic approach [1]. Although very few patients with early stage HL have a positive BMB [2,3], some guidelines still recommend the inclusion of BMB in the routine staging work-up of patients with newly diagnosed HL [4]. In general practice it is most common to perform routine BMB for advanced stage HL due to the higher prevalence of BM involvement, despite the fact that in advanced stage disease a positive BMB is much less likely to have a therapeutic impact than in early stage disease.

The reason to perform BMB is the possible impact on treatment strategy. The reasons not to perform BMB are: (1) it is an unpleasant procedure for the patient, (2) for most patients it is a waste of time and resources, and lastly (3) it may delay the initiation of chemotherapy. The paper by Richardson and colleagues, published in this issue of ***Leukemia and Lymphoma***, reports on a UK questionnaire-based patterns-of-care survey of the use of BMB in the present era. Questionnaire responses were received from 34 lymphoma centers, half of these using positron emission tomography (PET)/CT routinely for HL staging. BMB was used for staging of patients with advanced stage disease in all centers but one. For early stage disease BMB was performed in only 30% of the centers, but in 70% of those not using staging PET/CT routinely. The authors also report the results of a retrospective, single-center study of the value of BMB in patients with HL undergoing PET/CT staging. They identified 50 patients who had had both procedures. Ten patients were BMB positive, all of whom were identified by PET/CT. Eight patients had marrow or bone fluorodeoxyglucose (FDG) uptake in the presence of a normal BM biopsy. On the basis of these results BMB would have had an impact on the treatment of only a single patient if staging was performed with CT only, but with staging PET/CT, BMB had no therapeutic impact in any of the 50 patients [5].

These results are in line with a larger study presented recently by El-Galaly *et al.* [6]. They reviewed the experience from three Danish institutions where both BMB and PET/CT have been performed routinely for staging of all patients with HL for several years. The study included 392 patients with HL, including 202 patients with early stage disease and 190 patients with advanced stage disease (according to PET/CT-based staging). Not a single patient with early stage disease had a positive BMB. Four patients with advanced stage disease had positive BMB despite normal FDG uptake in the bones and marrow. However, the treatment strategy was unaffected in all four patients. So, in other words, BMBs were performed in 392 patients with HL without a single therapeutic consequence [6].

The recent results show that BMB should not be performed routinely in patients with HL undergoing PET/CT staging. Staging BMB in these patients can be restricted to those where imaging or laboratory tests are suggestive of bone or marrow involvement, and where a therapeutic consequence of the procedure is likely.

Potential conflict of interest: A disclosure form provided by the author is available with the full text of this article at www.informahealthcare.com/lal.

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