Published in final edited form as:

J Pediatr Hematol Oncol. 2018 April ; 40(3): 246–247. doi:10.1097/MPH.0000000000001107.

SURGEON CONCORDANCE IN THE ASSESSMENT OF RESECTABILITY FOR STAGE IA NODULAR LYMPHOCYTE PREDOMINANT HODGKIN LYMPHOMA

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CONFLICT OF INTEREST

None of the authors have conflicts of interest to disclose.

DISCLAIMER

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Nodular lymphocyte predominant Hodgkin lymphoma (NLPHL) is a histologic subtype representing 5–10% of HL. NLPHL is a slow growing disease that typically presents with localized peripheral disease (stage I or II) and lack of B symptoms^{1–4}. Traditionally, NLPHL has been treated according to protocols for classical HL, including chemotherapy and/or radiation therapy. While patients have achieved excellent results on these protocols, long-term treatment-related toxicities and secondary malignancies occur and are not insignificant⁵. Interestingly, there have been reports of cure of stage I and stage II disease with surgery only^{6–8}, but surgery as a stand alone therapy had not been formally studied. However, a recent Children's Oncology Group (COG) study AHOD03P1 aimed to reduce the potential for long-term toxicities by minimizing exposure to chemotherapy and radiotherapy in appropriate patients with NLPHL, and to treat totally resected single node stage IA NLPHL patients with surgery alone⁹. In this study, 52 of 183 eligible patients had stage IA single node, and were treated with surgery only. The 5-year overall survival (OS) was 100%, and the 5-year event free survival (EFS) was 77%, with 75% of these highly selected patients avoiding radiation and chemotherapy. It is possible that more patients could be treated with surgery alone. The purpose of this analysis was to assess the technical feasibility of extending surgery only treatment to all children with stage IA NLPHL.

From this study group we identified a subset of NLPHL patients who had stage IA disease and then eliminated those with stage IA single node only. These patients with stage IA more than single node disease then comprised the cohort. Two pediatric surgical oncologists (JA, PE) independently reviewed the initial staging cross-sectional imaging of this cohort. Location of disease, extent of nodal involvement, and resectability were evaluated. Concordance between the surgeons was compared, and reasons for unresectability were noted. Goals for resectability included complete removal of all visible disease without excessive morbidity or sacrifice of adjacent structures.

Of the 183 patients with NLPHL who were enrolled on AHOD03P1, 47 patients with stage IA and more than a single node were identified. There were 36 males (77%) and 11 females (23%). Median age was 12.3 years (range 4.4 to 20.7 years). Eleven cases were not evaluable due to insufficient imaging available for review. Of the 36 cases that were evaluated, involved nodal locations included submandibular (1), inguinal/iliac (5), and cervical (30). The median number of nodes requiring resection was 4 (range 1–15). Thirty-four cases (94%) were felt to be resectable by at least one of the surgeons. Surgeon agreement on resectability was 81% (29/36). The resectability opinion differed between surgeons in 5 cervical and 2 iliac cases. In two patients, both surgeons agreed that a resection should not be offered. Nine patients were determined by at least one of the surgeons to not be a candidate for surgical resection alone due to morbidity and extent of the required procedure.

Previous reports have described successful surgical resection alone for patients with NLPHL with limited disease^{6, 7, 10}. While these series provide some evidence as to the feasibility of surgery only for some patients with NLPHL, their generalizability is limited by the retrospective nature, variable clinical stages included, and lack of uniformity in the resection performed⁹. AHOD03B1, the first prospective well-controlled study, employed this surgery only strategy for a clearly defined group of patients. In this cohort of stage IA, single node

disease with complete resection, 75% (39/52) avoided chemotherapy and radiation therapy with 100% survival⁹. The results of this study prompted further inquiry into the feasibility of whether additional patients could potentially avoid the short and long term effects of adjuvant therapy by extending the surgery only treatment to a broader group of NLPHL patients. This study has demonstrated that based on imaging studies, the technical feasibility of surgery for children with stage I NLPHL is excellent within the context of a clinical trial and with central radiographic review support, and could be considered for further study. Future clinical trials could incorporate a comparison of surgical resection for stage I NLPHL disease with standard chemotherapy approaches, evaluating the morbidity and outcomes of each modality.

Acknowledgments

ACKNOWLEDGEMENT OF GRANT SUPPORT

Research reported in this publication was supported by the following grants from the US National Institutes of Health to the Children's Oncology Group:

NCTN Operations Center Grant U10CA180886

NCTN Statistics & Data Center Grant U10CA180899

Chair's Grant U10CA908543

Statistics and Data Center Grant U10CA098413

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