Reviewer’s report

Title: Analysis of Risk Factors for Cervical Lymph Node Metastasis of Papillary Thyroid Microcarcinoma: A Study of 268 Patients

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Reviewer: Marta Fichna

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The manuscript presented by Jian-hua Gu et al. deals with an important issue of the risk factors for the cervical lymph node metastases in papillary thyroid microcarcinoma (PTMC). In clinical practice, this malignancy is considered quite indolent, with an excellent long-term prognosis. Therefore, therapeutic measures tend to be limited to thyroid surgery without subsequent radioiodine ablative treatment. However, a small proportion of the PTMCs actually give rise to the metastatic lesions in the cervical lymph nodes. At present, cases with increased metastatic potential are difficult to distinguish based on routine histopathology evaluation of the thyroid tumour. Hence investigation of the risk factors for the cervical lymph node metastases seems a valuable initiative, which could provide precious therapeutic guidance in PTMC patients.

The study comprised data collected from 268 patients with PTMC, with complete clinical description and histopathology results. This is an elegant retrospective analysis, which clearly demonstrates that male gender and thyroid tumour size are independent risk factors for the cervical lymph node metastases in PTMC. According to the current analysis, up to one third of the PTMC patients present with cervical lymph node metastases Therefore, male patients and those with larger microcarcinoma (still less than 1 cm of diameter) need to be monitored more closely. Moreover, the data obtained in this study support routine central lymph node dissection during thyroid surgery, as preoperative ultrasound and cytology evaluation may not detect minute metastases. Overall, the analysis presented in the manuscript, although retrospective and not very innovative, adds up to the former knowledge on prognostic factors in PTMC. On the contrary, the investigation of skip metastases, even if quite detailed, comprises just four individuals. This is a major limitation, which precludes from drawing any meaningful conclusions, and therefore this analysis might be omitted in the manuscript.

Finally, Table 1 with patient demographic characteristics apparently lacks number and proportion of cases with capsular invasion and extrathyroidal extension.

To summarize, this is an interesting, clearly written paper, which may be of interest for clinicians dealing with PTMC. It seems suitable for publication in BMC Endocrine Disorders after just minor revision.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
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Are the conclusions drawn adequately supported by the data shown?
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