Reviewer’s report

Title: Sentinel lymph node biopsy is unsuitable for routine practice in young female patients with unilateral low-risk papillary thyroid carcinoma

Version: 1 Date: 28 October 2010

Reviewer: Barbara Jarzab

Reviewer’s report:

The issue of sentinel LN biopsy in papillary thyroid cancer deserves attention as there are only scarce studies considering their indications and evaluating the efficacy. A priori estimation of its value is rather negative taking into account the frequent skip metastases. On the other hand as elective lateral neck lymph node dissection is not well accepted in papillary thyroid cancer while there are clear indications for this procedure if lymph node metastases are present, there is a place for sentinel biopsy. Considering central lymph node compartment, its routine dissection is advised by many guidelines in PTC. However, for micro PTC, more and more authors advice not to perform central lymphadenectomy if no suspicion of lymph node metastases is present and this lack of indications may well be extended to T2 tumors. The goal is to avoid surgical complications of this procedure. Thus, the rationale for analysis of T1-T2N0M0 (as judged by preoperative diagnostics) patients is well based.

The authors compared lymphoscintigraphy technique with methylene blue injection and focused on the most important outcome measure FNR (false negative ratio). The half of patients received methylene blue injection only, the other half the combined technique. The FNR of methylene blue was unacceptably high – 38,9%, thus, the combined technique has been applied with FNR 14,3%. This may seem much less but in fact the difference was insignificant. In this prospective study 60% of patients with unilateral pT1-pT2 PTC were ultimately judged LN positive. Among them 32 patients (>60% of pN1 patients) exhibited PTC metastases to central lymph node compartment and 23 (23/55) skip metastases to lateral compartment without central node involvement (if I understand correctly the data).

Following questions and comments require clarification:

1. The alternative to SLN is the intraoperative biopsy of enlarged or random lymph nodes. The authors do not describe the intraoperative macroscopic evaluation of lymph nodes status of their patients – whether if could help to disclose the metastatic lymph nodes without formal SLNB.

2. Authors correctly state that the status of SLNB in thyroid cancer is unclear until now. However, then, they indicate possible peculiarities in Chinese population. I would rather consider their negative results as more general ones.

3. At the description of material and methods, the most unclear point is the question whether central lymphadenectomy was performed routinely (they state:
all patients underwent SLNB followed by unilateral modified lateral neck dissemination).

4. The introduction to discussion chapter is totally misleading. Authors mention many types of cancer in which the lymph node status has an indicator function but is not outcome governing one and include thyroid cancer into this group. ‘To remove a palpable lesion that might undergo progressive growth and create local palliative problem’ is in my opinion not optimal goal of lymph node surgery. In fact, in PTC, lymph node dissection better prevents locoregional recurrence that ‘berry picking’ – like procedures. Thus, in fact, positive SLNB creates an indication for central or lateral lymphadenectomy. However, due to high FNR, SNLB does not improve the selection of patients who need modified lymphadenectomy.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.