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Is surgery necessary for papillary thyroid microcarcinomas?

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We read the Review article written by Dr Mazeh and Dr Chen (Mazeh, H. & Chen, H. Advances in surgical therapy for thyroid cancer. *Nat. Rev. Endocrinol.* **7**, 581–588; 2011)[1] that was published in this journal's Focus issue on thyroid cancer.

In this article, the authors comment on papillary thyroid microcarcinoma (pages 583–584). They cite our manuscript that describes an observation trial in patients with microcarcinoma,[2] and state that lymph node metastases developed in 12% (now corrected to 12.3%) of patients who underwent observation. However, all of these nodes were small and only suspected of being metastatic by ultrasonography at the initiation of the study or during observation. As described in our manuscript, only 2 of 162 patients (1.2%) showed definite progression of lymph node metastasis during observation and then underwent surgery. The lymph node status of the remaining patients was stable and suspicious nodes even disappeared during observation in many cases.

The authors also state that more than one-third (56 of 162) of patients required surgical treatment after observation in our study.[2] However, only 13 of these 56 patients showed tumor enlargement and 7 patients underwent surgery because tumor size exceeded 10 mm. In total, 9 patients (7 owing to tumor enlargement and 2 owing to novel appearance of node metastasis) underwent surgery owing to the detection of tumor progression signs. The remaining 47 patients underwent surgery after observation for reasons other than carcinoma progression, such as patient choice or enlargement of associated nodules, as clearly described in our manuscript.

It is true that, as the authors state, about 30% of patients in the observation group showed carcinoma enlargement during the follow-up period. However, the incidences of tumor enlargement were similar, ranging from 15% to 29%, at all yearly follow-up times from one to five years of follow-up.[2] These findings suggest that carcinoma size often fluctuates. In fact, constant enlargement of microcarcinoma was only occasionally seen during observation.

In 2007, we published a Review article in this journal[3] in which we discussed new data we obtained by studying a larger number of patients, showing that only 6.7% of patients had tumor enlargement of 3.0 mm or more in diameter and that nodal metastases were detectable in only 1.7% of patients within a 5-year follow-up period (unpublished data). Moreover, we published the results of another, more-recent observation trial in 2010, in which tumor enlargement and novel appearance of node metastasis were detected only in 6.5% and 1.4% of patients after 5 years of observation, respectively.[4] Importantly, none of the patients who underwent surgery after observation showed postoperative carcinoma recurrence and none of the patients who underwent observation showed distant metastasis or died of thyroid carcinoma.

In summary, we conclude that low-risk microcarcinoma generally has an indolent nature and that immediate surgery is not mandatory. As Dr Mazeh and Dr Chen comment on page 584, we cannot discriminate progressive cases from other cases before novel molecular and improved imaging techniques are established. However, as indicated above, the incidence of progressive cases is very low and, in our experience, surgery performed when progression signs are detected is not too late. Our data cannot be used to support the idea that microcarcinoma is often progressive and that immediate and extensive surgery such as total thyroidectomy is recommended. The authors' description of our study in this article can give an incorrect impression to readers.

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Competing interests
The authors declare no competing interests.

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