Letters to the Editor

Remarks on sentinel node biopsy in head and neck cancer

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Sir,

The status of the regional lymphatics is one of the most important prognostic parameters in patients with head and neck cancer, and the presence or absence, level, and size of metastatic neck disease are crucial for treatment and survival. Due to the limited sensitivity and specificity of the usual diagnostic tools like ultrasound, CT, MRI, and PET (Stuckensen et al, 2000), a pathohistological staging of the neck was generally adopted to remove and detect occult metastases, which could not be detected by these imaging techniques. A large number of elective neck dissections (ND) where the pathohistological examination of the surgical neck specimen did not reveal any positive nodes was accepted. This surgical procedure was associated with risks and morbidity of the patients concerned.

In the last years, beginning with a case report by Alex and Krag (1996), sentinel node biopsy (SNB) in head and neck cancer became a very interesting field of clinical investigation. Other investigators followed, and the recent article of Höft et al (2004) mentioned some of them. Because the method of SNB was interlaced with the N0 neck, that is, a neck without clinically detectable nodal metastasis, the procedure generally adopted to remove and detect occult metastases, which could not be detected by these imaging techniques. A large number of elective neck dissections (ND) where the pathohistological examination of the surgical neck specimen did not reveal any positive nodes was accepted. This surgical procedure was associated with risks and morbidity of the patients concerned.

The third and main problem is the omission of an elective ND, which would potentially achieve a benefit for the patient concerning risk, morbidity, and life quality. This would depend on the reliability of SNB. In the study of Höft et al (2004), ‘no patient with tumor-free sentinel nodes was found to have a metastasis in a nonsentinel lymph node’. False-negative results have been very rare in all previous studies, too. This would encourage the omission of elective ND in favour of SNB. However, Höft et al (2004) falsely stated that ‘So far, only Ross et al (2002) have reported on a study of a true biopsy of the sentinel lymph node without elective neck dissection’. Kovács et al (2001) reported on true biopsy of the sentinel node without elective ND, and all consecutive patients have been treated that way (Kovács et al, 2001, 2004a–c). Diagnostics using PET in combination with SNB considerably reduced the number of elective ND, and the inconspicuous follow-up time of 80 patients to date surpassing a median of 2 years makes it not likely that this will be paired with hazard. Some contributors of the mentioned multicentre study also adopted this procedure, and there is hope that SNB without elective ND will be the staging procedure of the future in a large number of head and neck cancer patients.

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Letters to the Editor

Reply: Remarks on sentinel node biopsy in head and neck cancer

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Sir,
Thank you for giving us the opportunity to respond to the commentary letter by Dr Kovacs.

In the third paragraph, Dr Kovacs is referring to staging methods. He mentions four publications (Kovacs et al, 2001, 2004a, c; Ross et al, 2004) to our present publication in the British Journal of Cancer (Höft et al, 2004). One of the four studies was published after ours (Ross et al, 2004). Two are not published yet, but are in press (Kovacs et al, 2004a, c). Dr Kovacs’ conclusion that ‘sentinel lymph node biopsy reflects the accuracy of the clinical and radiological staging methods, and the ideal diagnostic prerequisite for SNB is not yet found’ is quite similar to ours, namely the ‘better the staging methods are in detecting small metastases the less occult metastases will be overlooked and the more valuable will be the impact of an additional sentinel lymph node procedure’. However, the rate of positive sentinel lymph nodes is not only influenced by the staging procedure but also by the pathohistologic work-up. The more the intensive sentinel lymph nodes are examined, the more the occult metastases will be detected, raising the percentage of patients with occult disease (Höft et al, 2002; Höft et al, 2004). In our study, we applied ultrasound examinations for staging of the neck as a radiological method and also performed fine-needle aspiration cytologies. The accuracy of US-guided aspiration cytology has been shown to be significantly better than that of CT or MRI (van den Brekel et al, 1991).

The fourth paragraph concerns the obstacle of performing a sentinel node biopsy on large tumours. In our group of patients, this is due to the fact that it was difficult to perform an endoscopic peritumoral injection on large tumours located in the pharynx and the larynx (Höft et al, 2004). Dr Kovacs adds that large tumours pose problems due to destruction of the lymphatic drainage, but he fails to provide data or literature on which his opinion is based. As we did not perform histologic studies of the lymphatics, we cannot add new information whether large tumours are more aggressive in destroying lymphatic vessels on their rim than are small tumours. However, the technique of the peritumoral injection is to inject the tracer adjacent to, and not into, the tumour. Thus, it does not really matter if a tumour destroys lymphatic vessels within its borders, as there will be intact lymphatics surrounding the tumour to take up the tracer even in large carcinomas.

In his last sentence of the fourth paragraph, Dr Kovacs suggests that an intra-arterial induction chemotherapy might be a modality in reducing tumour size prior to sentinel node biopsy. It is an interesting suggestion we would have liked to discuss in our article. However, Dr Kovacs’ results were still in press when his letter of comment was written. Thus, the information he refers to was not accessible to us. Yet, although Dr Kovacs states that intra-arterial chemotherapy did not seem to alter lymphatic drainage (Kovacs et al, 2004b), there is ample evidence that preoperative chemotherapy affects lymph nodes. Cohen et al (2000) describe lymph nodes showing areas of fibrosis, fat necrosis, histiocytic accumulation and granulation formation after neoadjuvant chemotherapy. Furthermore, metastatic foci can be completely obliterated by chemotherapy. Accordingly, Nason et al (2000) concluded in their study that preoperative chemotherapy is associated with an unacceptable high false negative rate for sentinel lymph node detection. If these changes are evident in chemotherapy, we would expect to find them in patients with intra-arterial chemotherapy, too. We are looking forward to the publication of Dr Kovacs’ results and histologic findings of the lymphatics.

In the fifth paragraph, Dr Kovacs refers to the omission of an elective neck dissection potentially achieving a benefit for the...