The Breathe *feature where we give you an expert and a topic, and you have the chance to ask them questions via breathe@ersj.org.uk*

Ask the expert: Thoracic oncology

J. Vansteenkiste

[redacted]

Respiratory Oncology Unit (Pulmonology)
University Hospital Gasthuisberg
Herestraat 49
B-3000 Leuven
Belgium
johan.vansteenkiste@uz.kuleuven.ac.be

Competing interests
None declared.

Q 1. What is your opinion about the management of a T1N0M1 lung adenocarcinoma, staged by positron emission tomography (PET)–computed tomography (CT) and brain magnetic resonance imaging (MRI), when metastasis (M) status is up to three <1 cm^3 small supratentorial central nervous system (CNS) nodules? In some specific cases (elderly patients and comorbidities) is there a role for nonchemo-based therapy (*e.g.* local resection and stereotactic brain radiosurgery)?
G. Faibischew Prado, São Paulo, Brazil

A 1. The treatment of patients with M1 disease based on cerebral metastases remains an area of controversy, and is not really dependent on age, but rather on overall stage, comorbidity and performance status.
If there are several brain metastases and neurological symptoms, pancranial irradiation is the preferred first step, followed by systemic treatment in sufficiently fit patients. If there are no neurological symptoms or signs, systemic treatment may be the first approach [1].
In selected patients with a brain metastasis as the only site of M1 disease, a radical multimodality approach may be indicated. Important conditions for such an approach are good performance status, and possibility of complete control of both locoregional disease and brain disease. The first is feasible in your patient (by complete resection of cT1N0). The second will be difficult. Most patients with three brain metastases on imaging will have multiple brain metastases at the microscopic level. In a very recent overview of evidence and guideline on patients with *single* brain metastasis [2], surgical resection (or radiosurgery) plus pancranial radiotherapy was reported to be better than pancranial radiotherapy alone, but this was not the case for patients with poor performance status or multiple brain metastases.

Q 2. What is the current diagnostic and therapeutic scope and role of argon plasma coagulation (APC) in bronchoscopic procedures?
A. Mohan, New Delhi, India.

Answer courtesy of C. Dooms (Respiratory Endoscopy, Leuven, Belgium)

A 2. APC is a noncontact form of thermal electrocoagulation, as argon gas ionised by an electrical current creates a bridge of least resistance to the target tissue up to 1 cm away from the tip of the probe. APC has no diagnostic applications but is used for therapeutic interventional endoscopic procedures [3]. Despite less penetration compared with standard contact form of electrocautery or laser thermocoagulation, there are reports on APC in successful desobstruction of symptomatic central airway obstruction. However, standard electrocautery and laser therapy are still the preferred options for rapid removal of bulky malignant or benign central airway obstruction. APC is mainly very successful for the quick haemostasis of superficially bleeding endobronchial lesions. APC is a safe tool for thermal tissue coagulation if set at a maximum power of 40 W, inspiratory oxygen fraction of 21% and argon plasma flow rate of 0.8 L per min. At this setting it is also very useful to coagulate granulation tissue around/involving silicone or covered metallic stents without causing airway stent damage or ignition. A remaining concern

in the bronchoscopic use of APC is the potential risk of a systemic argon gas embolism, even at very low gas flow rates at the tip of the probe.

Q **3. Why is the prognosis of lung cancer much better in some European countries than others? Is the low operability rate in some countries accounted for by older/more chronic obstructive pulmonary disease patients, or differences in referral systems and resources? What do the countries with poorer prognoses have to do to catch up with the better ones?**
S. Burge, Birmingham, UK

A 3. There are indeed differences in lung cancer outcome across regions and countries. While it may be difficult to unravel this finding completely, factors such as low access to or insufficient indication of thoracic surgery, radical radiotherapy, or modern systemic therapy are important factors. This may be linked to referral systems, insufficient approval of new drugs, or too restrictive interpretations of guidelines. For the first, multidisciplinary evaluation of patients is vital. For the second, solutions are linked to resources in each country. For the last, it is important to realise that guidelines – while being very important – give us a guide to deliver what is minimally required for each patient, but this does not exclude the possibility that there may be better options for some selected patients. The more guidelines are made by hardliners in evidence-based medicine and used by authorities in a restrictive way, the less room remains for what may be a better treatment for a selected patient in an experienced cancer centre. The restrictive attitude to guidelines was brilliantly illustrated in the famous paper in the British Medical Journal on the usefulness of parachutes for jumping out of an aircraft [4].

Q **4. How could one treat a female, nonsmoking patient with nonsquamous lung cancer who, having achieved an almost complete response to erlotinib (75/150 mg every other day for 15 months as a second-line therapy), presents with chest pain, and in whom PET–CT reveals a new fluorodeoxyglucose accumulation in the right paratracheal lymph node and a recurrence of right-sided pleural effusion?**
S. Emri, Ankara, Turkey

A 4. The decision for such a patient will depend on the stage at the time of relapse, mainly determined by the nature of the pleural effusion.
In the case of advanced disease (*i.e.* either advanced stage at the time of diagnosis or current malignant pleural effusion), the first consideration is to improve the complaints of the patient, *e.g.* by giving adequate therapy to control pain, and appropriate measures to control the pleural effusion (*e.g.* talc pleurodesis).
There is symptomatic progression and another systemic therapy indicated in the case of good performance status. In that scenario, it may be important not to cease erlotinib abruptly, but only when the next therapy is started.
In the case of good performance status, further systemic treatment is indicated and determined by which regimen was used as a first-line treatment. Pemetrexed would be a good choice if not used previously, docetaxel is another possibility.
The clinical characteristics of the patient (female, never-smoker, nonsquamous) and the course of the disease raise the possibility that the tumour had an epidermal growth factor (EGFR) activating mutation at baseline. If these patients have symptomatic progression after a prolonged period of disease control, treatment with an irreversible EGFR tyrosine kinase inhibitor is an option that is currently in clinical trial evaluation.

Q **5. My question concerns what can be done in a case where a malignant thymoma in a 16-yr-old male (diagnosed by endobronchial ultrasound-transbronchial needle aspiration, with a differential diagnosis of suspected lymphoma) recurs with a left pleural effusion 2 yrs after two lines of neoadjuvant therapy (each consisting of three cycles of cyclophosphamide, doxorubicin, cisplatin) but no surgery as the mass was not visible on thoracic CT after the first three cycles or the second three. Three cycles of paclitaxel plus cisplatin fail to clear up**

the effusion, and talc pleurodesis is performed, but what else can be done?
Sumardi, Yogyakarta, Indonesia

A 5. Pathological diagnosis of mediastinal tumours can be very difficult; therefore, any doubt between thymoma and lymphoma should always be solved in a larger tissue sample, as the treatment is quite different.

If this was a thymoma, it can be concluded from the history of the patient that there was no possibility for a complete resection at baseline; otherwise this would have been the best choice. In the absence of metastases, a multimodality treatment including chemotherapy and surgery may be useful in selected upfront unresectable patients, based on prospective phase II series (phase III studies are lacking as these patients are rare). In that setting, it is clear that treatment will never be radical if based on chemotherapy alone. Therefore, complete resection should have been considered at the time of response to the initial chemotherapy.

The situation now is a relapse after two lines of chemotherapy. If possible, a good tissue specimen should be obtained to be sure whether this is thymoma or lymphoma. There is no evidence whatsoever for further systemic treatment for thymoma in this situation, so the best options would be supportive care or enrolment in a clinical trial.

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Ask the Expert – Rehabilitation and Critical Care Medicine

In the next issue of Breathe, to be published in June, Professor Enrico Clini will be answering reader's questions on the subject of rehabilitation and critical care medicine. Professor Clini works at the Università Studi di Modena e Reggio Emilia as an Associate Professor and at the respiratory rehabilitatation hospital, Ospedale Villa Pineta, in Modena, Italy. Professor Clini is also the ERS Assembly Secretary for the Clinical Assembly.

Professor Clini cannot enter into direct correspondence with readers or answer any questions regarding specific cases. Questions with wider relevance to common problems are most likely to be selected. Please send all questions by email to breathe@ersj.org.uk