1. It has become clear that labels such as MFH and HPC no longer represent distinctive tumour entities, to the extent that their use may represent source of diagnostic confusion.
2. New entities has been reported showing distinctive morphological, genetic and clinical features. Important examples are represented by “pseudomyogenic hemangioendothelioma” and “myoepithelioma of bone and soft tissue”.
3. New genetic data have been reported in benign, borderline and malignant lesions. Among them nodular fasciitis, angiomatoid “malignant” histiocytoma and epithelioid hemangioendothelioma.
4. Recent data have shown that the prognostic value of translocation in sarcoma (Ewing’s sarcoma, synovial sarcoma and alveolar rhabdomyosarcoma) is less robust than initially hoped.
5. A prognostic signature based on array CGH (CINSARC) has been developed that may significantly improve our capacity to discriminate among thoe patients belonging to the somewhat “grey” G2 category.
6. Following the success of imatinib therapy in GIST other molecular targets has been investigated: ALK in inflammatory myofibroblastic tumour, mTOR in malignant PEComa and MDM2 in dedifferentiated liposarcoma all represents important example underscoring the necessity to define robust predictive biomarkers.

These only represent examples of recent advances in the field of soft tissue tumours that certainly support the opportunity to update the currently available classification scheme.

## *Scientific Symposium* (Mon, 26 Sep, 14:45−16:45)
## Treatment of Dyspnea − What Does the Evidence Support?

**341** INVITED

### Inhaled Furosemide − Yes or No?

A. Spathis[1]. [1]*Cambridge University Hospitals NHS Foundation Trust, Palliative Care, Cambridge, United Kingdom*

Breathlessness is a prevalent symptom in patients with cancer, and can be difficult to treat. Furosemide is a safe and relatively cheap drug, with few adverse effects. Evidence from two case series and a case report has suggested that nebulised furosemide may relieve dyspnoea in patients with advanced cancer. However, two small, randomised controlled trials evaluating furosemide in patients with cancer have failed to show benefit. Inhaled furosemide cannot, therefore, be recommended for the palliation of dyspnoea on the basis of current evidence.

**342** INVITED

### The Role of Opioids in Alleviating Cancer-Related Dyspnea

I. Ben Aharon[1], A. Gafter-Gvili[2], M. Paul[3], L. Leibovici[4], S.M. Stemmer[1]. [1]*Rabin Medical Center, Institute of Oncology Davidoff Center, Petah Tikva,* [2]*Rabin Medical Center, Institute of Hemato-oncology Davidoff Center, Petah Tikva,* [3]*Rabin Medical Center, Infectious Diseases Unit, Petah Tikva,* [4]*Rabin Medical Center, Medicine E, Petah Tikva, Israel*

Up to 50% to 70% of terminally ill cancer patients experience dyspnea in the last 6 weeks of life, and the symptom is aggravated with disease progression. Dyspnea causes suffering and severely hampers the patients’ quality of life. Despite a paucity of prospective randomized trials, the literature review lends support to the use of opioids for the alleviation of dyspnea in cancer patients. There is evidence that subcutaneous morphine is effective in treating dyspnea in advanced cancer patients. The role of nebulized morphine remains less certain because it has been found to be equally effective to subcutaneous morphine, yet its superiority compared with placebo had been documented only partially. Most studies assess the short-term effect of opioids on dyspnea. Future studies are needed to evaluate the effects of opioids in alleviation of dyspnea for longer periods of time.

**343** INVITED

### The Efficacy of Benzodiazepines for Palliating Dyspnoea: a Systematic Review

S. Booth[1], S. Simon[2], I.J. Higginson[3], R. Harding[3], C. Bausewein[3]. [1]*Addenbrooke’s Hospital, Oncology Centre, Cambridge, United Kingdom;* [2]*University Hospital, Center of Palliative Medicine and Clinical Trials Unit, Koln, Germany;* [3]*Kings College, Department of Palliative Care & Policy, London, United Kingdom*

**Background:** Breathlessness is a common devastating symptom of advanced cancer reaching prevalences of 90% in patients with lung cancer. It has a profound effect on patients and families and current palliative strategies are ineffective. Benzodiazepines are commonly used for this symptom.

**Materials and Methods:** A Cochrane Review of benzodiazepines in breathlessness was carried out using standard protocol. Papers were checked independently by two reviewers.

*Selection criteria*: Randomised controlled trials (RCTs) and controlled trials (CTs). *Participants*: Adult patient with breathlessness from malignant/advanced non-malignant diseases.

*Intervention*: Benzodiazepines compared with either placebo or other drugs.

*Outcomes*: Subjective measures of breathlessness as primary outcome. Study quality assessed using Jadad scale, Edwards score.

**Results:** Meta-analysis was conducted where appropriate; 7 studies were identified including 200 analysed participants with advanced cancer and COPD. Analysis of all seven studies (including meta-analysis of 6 out of 7) did not show beneficial effect of benzodiazepines on breathlessness severity in this group. Furthermore no significant effect was observed in the prevention of breakthrough dyspnoea in cancer patients. Sensitivity analysis demonstrated no significant differences regarding type of benzodiazepine, dose, route, frequency of delivery, duration of treatment or type of control.

**Conclusions:** There is no evidence to support the use of benzodiazepines in breathlessness in patients with advanced cancer. Benzodiazepines anecdotally are consistently observed to be helpful but should be used as a second or third line treatment within an individual therapeutic trial when opioids and non-pharmacological treatments have first been used to maximum effectiveness. There is a need for further well-conducted and adequately powered studies in those differentiating between end of life (last few days) and the last few months of life.

#### References

Simon *et al, (2010)* Cochrane Review, vol 1.

**344** INVITED

### Pleural Effusion Management

P. Girard[1]. [1]*Institut Mutualiste Montsouris, Département Thoracique, Paris, France*

Malignant pleural effusions are defined by the presence of malignant cells within the pleural space. They are a frequent clinical problem in oncology, present in about 20% of patients who die from cancer. Metastatic breast and lung cancers represent 50−65% of the causes of malignant pleural effusions.

The diagnosis may be made on pleural fluid obtained through thoracocentesis in about 60% of cases, but may necessitate a thoracoscopy, the only procedure with a nearly 100% sensitivity. About 20% of pleural effusions in patients with known cancer are unrelated to the underlying malignancy. The overall prognosis of patients with malignant pleural effusion is poor, with median survivals ranging from 3 to 12 months, depending mainly on the stage and type of the underlying malignancy and the patients’ performance status.

Besides treating the cause (i.e., the underlying malignancy), treatment options include (a) observation in patients with asymptomatic effusions if the diagnosis is known, (b) iterative therapeutic pleural aspirations, mainly in patients with slow recurring effusions or a short life expectancy, (c) small-bore (10−14F) intercostal tube drainage followed by pleurodesis, (d) thoracoscopic pleurodesis and (e) long-term ambulatory indwelling pleural catheter drainage.

Thoracoscopic talc pleurodesis remains the therapeutic reference, but it can be performed only in patients with a performance status $\leqslant 2$ and a satisfactory lung re-expansion following pleural evacuation. Talc pleurodesis appears equally effective when administered as a slurry through a chest tube or by insufflation under thoracoscopic control.

Long-term ambulatory indwelling pleural catheter drainage is indicated in case of pleurodesis failure (i.e., recurrence of a symptomatic effusion) or contraindication (trapped lung). This technique is increasingly used as a first line treatment when the diagnosis is known, and it achieves a rate of spontaneous pleurodesis nearing 50%.

Ideally, dedicated respiratory multidisciplinary teams should make therapeutic decisions in patients with malignant pleural effusion, and quality of life concerns should have a major place in these decisions.