Fatigue is one of the most frequent complaints among BC survivors receiving RT. To explore whether biological processes underlying persistent fatigue can affect gene expression of blood cells, genome-wide expression analyses were performed on whole blood samples from BC survivors classified as chronic fatigued (CF) 2−6 years after diagnosis. Non-fatigued survivors served as controls. Several gene sets involved in plasma- and B cell pathways differed between the CF and the non-fatigued, suggesting that a dysregulation in these pathways is associated with CF and that a B cell mediated inflammatory process might underlie fatigue. The chronic fatigued also had a higher level of leucocytes, lymphocytes and neutrophils compared with the non-fatigued, thus further indicating that an activation of the immune system plays a role in the biology of CF in BC survivors.
With the above studies we hope to identify gene variants and gene expression profiles that predict long term adverse side effects of RT in BC patients that will shed light of the different mechanisms involved in order to develop preventive strategies.

References

Bernstein et al BCR 2004.
Olsen et al BJC 2005.
Rødningen et al Radiot. Onc 2005.
Langholz et al IJC. 2006.
Helland et al. Radiot. Onc. 2006.
Edvardsen et al IJ Rad. Onc Biol. Phys. 2007.
Landmark, et al Radiot Onc 2007.
Edvardsen et al. Radiat Oncol. 2007.
Rødningen et al Radiot. Onc. 2008.
Concannon et al. Cancer Res. 2008.
Landmark-Høyvik et al Pharmacogenomics 2009.

Society session (Mon, 21 Sep, 11:00−13:00)
SIOPE session

20 SIOPE Award

Multisystem Langerhans Cell Histiocytosis: progress in clinical management despite controversial biology

H.G. Gadner[1]. [1]*St. Anna Children's Hospital, Vienna, Austria*

More than a century after the first description of Langerhans cell histiocytosis (LCH), it is still an intriguing disease with a broad variety of presentation and enigmatic biology. Therefore, the management concepts over time have been changed according to the view on the nature of the disease process. At the beginning of the 20th century, LCH was believed to be of infectious or metabolic origin and starting with the unifying concept of "histiocytosis X" in 1953, it was considered a malignant disease. Hence, staging systems derived from other malignancies (e.g. lymphomas) were used. Some multi-institutional studies conducted in the USA between the 1950 s and 1970 s contributed to a better description of the disease variables and elaboration of treatment schedules. However, in the 1980 s, with the belief that LCH was a reactive rather than malignant process, the disease lost scientific interest and LCH fell into the category of "orphan diseases". Two prospective clinical trials in the early 1980 s (DAL-HX 83 and AIEOP-CNR-HX 83), both applying stratified systemic chemotherapy promptly after diagnosis, showed improvement in prognosis and reduced reactivation rates. These studies form the basis for the international trials (LCH-I, LCH-II, and LCH-III), conducted by the Histiocyte Society since the early 1990 s, after worldwide acceptance of uniform diagnostic criteria and disease stratification (single system (SS) vs multisystem (MS) LCH with/without risk organ (RO) involvement). The randomized LCH-I trial (1991–1995) compared vinblastine and etoposide in the treatment of patients with MS-LCH, and confirmed an equivalent efficacy of both drugs. Another important finding of LCH-I was that response to initial therapy is a reliable prognostic factor allowing for risk stratification and respectively tailored treatment intensity. The LCH-II trial (1996–2001) built upon the results of LCH-I, was a randomized phase-III trial for patients with risk MS-LCH (RO involvement: liver, spleen, haematopoetic system and/or lungs). In this study the effectiveness of 6 months therapy with the combination of oral prednisone, vinblastine and mercaptopurin, which has been established as a standard therapy for LCH, was compared to the same combination with the addition of etoposide. Overall, there was similar outcome in both therapy arms regarding early response, 5-year survival probability, disease reactivation frequency, and permanent consequences. Considering only risk patients the addition of etoposide showed significantly better results regarding speed of initial response and survival, thus, emphasizing the need of a more intensive approach in children with RO and resistant disease. In the LCH-III study (2001–2008) two randomized trials were incorporated. In the risk group the 12 months of steroids and vinblastine (standard arm) was compared to standard arm plus methotrexate, as an attempt for further improvement of survival and reactivation-free rate. The preliminary results of the LCH-III study do not show advantage of the addition of methotrexate. However, the overall survival of 85% at 2 years is the best result ever achieved in risk patients. In the low-risk group (no RO) the standard arm was randomly given for 6 or 12 months. The longer treatment arm showed a significant benefit in prevention of disease reactivation. Evolving knowledge of the disease biology will hopefully open new approaches for even more effective disease control in the near future.

Advocacy Session (Mon, 21 Sep, 13:30−15:00)
Informed cancer patients receive better treatment and care

21 INVITED

Surviving childhood cancers 'Informed cancer patients receive better treatment and care'

A. Brownsdon[1], C. Hails[1]. [1]*Independant, Cancer Survivorship, London, United Kingdom*

Rapid progress in the successful treatment of childhood cancers over the last 40 years has led to a new, ever expanding, cohort of childhood cancer survivors. For the authors, surviving childhood cancer has been an immensely positive opportunity and their experiences have led them both to pursue careers in healthcare. Whilst recognising that they are not unusual in this respect, the authors acknowledge that other survivors have not been so fortunate and may have suffered from late side effects of their treatments and/or encountered difficulties adjusting to a life that is no longer defined by cancer itself – whether this be at school, at work or in society.
Newly diagnosed patients can access information from a range of sources (including doctors and other healthcare professionals, the internet, cancer charities and other survivors) but the authors consider whether it is possible to truly be an 'informed cancer patient' when there is still so much that is unknown about the disease itself, treatments and their effects – both short-term and long-term.
They then focus on survivors as a source of information for patients, clinicians, and policy-makers, drawing on examples of a survivor mentoring programme, survivor representation on the British Childhood Cancer Survivor Study Steering Group and survivor representation on the Children and Young People's Workstream of the National Cancer Survivorship Initiative in the UK.
The authors share their experiences of being involved with the International Childhood Cancer Survivors' Network and how information is shared between patients, survivors, parents and clinicians globally. An international perspective has alerted them to the fact that they approach this subject from the privileged position of growing up in a country with a National Health Service and recognise that in many countries it is the family's economic circumstances that dictate the level of treatment and care the child receives, rather than their level of knowledge.
Finally, the authors discuss whether it should be the case that informed cancer patients receive better treatment and care. They conclude that all patients should be treated equally and receive the best available treatments based on clinical needs rather than on their access to information or financial circumstances.

22 INVITED

Talking with patients about expensive and unavailable new cancer drugs

L. Fallowfield[1]. [1]*University of Sussex, Oncology, Brighton East Sussex, United Kingdom*

Some very exciting developments have been made in the past decade which mean that more patients are being cured of cancer and/or living longer with meaningful remissions of their disease. The research community continue to make important discoveries that permit treatment to be tailored more precisely to an individual patient with these novel targeted therapies. Unfortunately many of these new treatments are extremely expensive and the healthcare budgets of most of the developed world are facing an impossible situation of having finite resources but infinite demands for the latest drugs. Arguments as to who should fund these ever expanding costs are heart-breaking for patients and their relatives who are desperate for access to the best available treatments. The media and popular press often fuel the debate in unhelpful ways by portraying benefits too optimistically. For healthcare professionals who practice in state-funded healthcare environments, sensitive discussions that should be happening about prognosis, supportive care and other end-of-life care