It is also increasingly understood that the “consequential effect” has a critical role in the development of chronic toxicity and that it is driven by factors beyond the control of the oncologist. One of the most important of these is the composition of the gut microbiota; another is the role of the immune system. Introducing techniques already used by other disciplines to manipulate these factors will deliver future great rewards in terms of reducing chronic toxicity. GI toxicity is a major limiting factor to the advance of oncological treatments. Many new solutions have emerged but require the harnessing of a multidisciplinary approach in a way that oncology has rarely used up to this point.

SP-0030
Having guts: saving the organ
M. Berbée

Intestinal radiation injury may severely hamper quality of life during and after treatment of abdominal tumors. Even though novel technical advances in treatment delivery have enabled more selective irradiation of the tumor, normal tissue radiation injury remains the most important dose limiting factor of radiotherapy. Hence, there is an urgent need for agents that can be administered during radiotherapy to prevent and/or reduce radiation-induced intestinal injury. These agents should of course not hamper the anti-tumor effect of radiation and, ideally, even improve radiation-induced tumor cell kill.

Pre-clinical studies have shown that the novel Somatostatin analogue Pasireotide effectively reduces radiation-induced intestinal injury by preventing post-irradiation pancreatic enzyme-dependent intestinal auto-digestion. In our experiments Pasireotide was shown to preserve the intestinal mucosal surface and to prevent intestinal bacterial translocation after radiation exposure. Pasireotide did not protect the intestinal stem cells and the beneficial effect of Pasireotide could be reversed by pancreatic enzyme substitution. Therefore, Pasireotide does not seem to act as a cytoprotector, but to mitigate intestinal radiation injury by inhibiting pancreatic exocrine secretion.

Until recent, knowledge on the effects of Pasireotide on the radiation-induced tumor response was scarce or non-existing at all. Pre-clinical studies have shown that Pasireotide may have a direct inhibiting effect on the growth of certain tumors such as neuroendocrine cancers. Moreover, it may reduce tumor growth by reducing the availability of growth factors such as IGF-1 and VEGF. However, no studies have been performed to assess the effect of Pasireotide on radiation-induced tumor growth delay. As Pasireotide can only be considered for clinical use if it does not hamper the anti-tumor effect of radiotherapy, we tested the effect of Pasireotide on tumor response to radiation in an animal model. The results of this recently performed study may enable a trial to test the potential beneficial effect on intestinal radiation injury in patients.

SP-0031
Radiation induced proctopathy: lessons learned from prospective clinical trials
J. Denham

The increasing number of dose escalation and hypofractionation prostate cancer trials is providing us excellent opportunities to learn more about ano-rectal,