RIT in the perspective of a medical oncologist

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So far, RIT is being used mainly in the treatment of malignant B-cell lymphomas (BCL). However, RIT research is also performed in solid tumours such as in breast cancer using trastuzumab as an antibody (1) or in prostate cancer using an anti PSA antibody (2). So far, none of these has reached clinical maturity. The malignant lymphomas rank as #6 in cancer incidence. The 2008 WHO classification (3) recognizes more than 50 different entities, about 90% being of B-cell origin. Some entities are quite common such as the potentially aggressive diffuse large B-cell lymphomas (DLBCL) that comprise a third of all BCLs. These tumours are candidates for polychemo-immunotherapy. RIT is rarely useful in these aggressive lymphomas when used as a monotherapy. First results are promising in the salvage setting in conjunction with high dose therapies with stem cell rescue (4). The Swiss Group (SAKK) is testing this concept in elderly lymphoma patients (5). Mantle cell lymphomas (MCL) are another specific entity comprising about 7% of all BCLs. Clinical responses of RIT monotherapy in MCL have mainly been of short duration. However, in the future, it may be of value in high risk MCLs as consolidation or in the transplant setting (4). So far RIT is not firmly established in MCL.

The follicular lymphomas (FL) remain the main target group for RIT. In Europe they comprise about 20% of the B-cell lymphomas, but their numbers strongly depend on the geographical area. Unfortunately, even in FL, RIT has not found a firm place in the treatment algorithms. Although high remission rates and remissions of long duration have been described in many trials either in first line (6), as consolidation after first line (7) or even after multiple relapses (8), in routine practice RIT is still mainly used when all other therapies have failed.

At the seminar we will discuss questions why RIT remains underused despite consensus conferences and treatment recommendations from various sources (9). Cost will also be an issue and some clinical data will be presented on a Phase I/II study with a new RIT compound using 177Lutetium, DOTA as a linker and rituximab as an anti B-cell antibody (10).

References
5. SAKK 37/05. Zevalin® and high-dose melphalan as conditioning regimen before autologous stem cell transplantation for elderly patients with lymphoma in relapse or resistant to chemotherapy. Schweizerische Arbeitsgruppe für klinische Krebsforschung (SAKK), Bern, Switzerland