poor, medium and good prognosis group for the clinical cohort and trial cohort respectively, while (by definition) the training cohort had 25%, 50% and 25% distribution. This means the model was able to classify poor and medium prognosis patients in the clinical cohort but the good prognosis patient group was very small, as the clinical cohort population was older, had more advanced cancers, more nodal spread and more non-glottic cancers which are unfavorable for the survival prognosis.

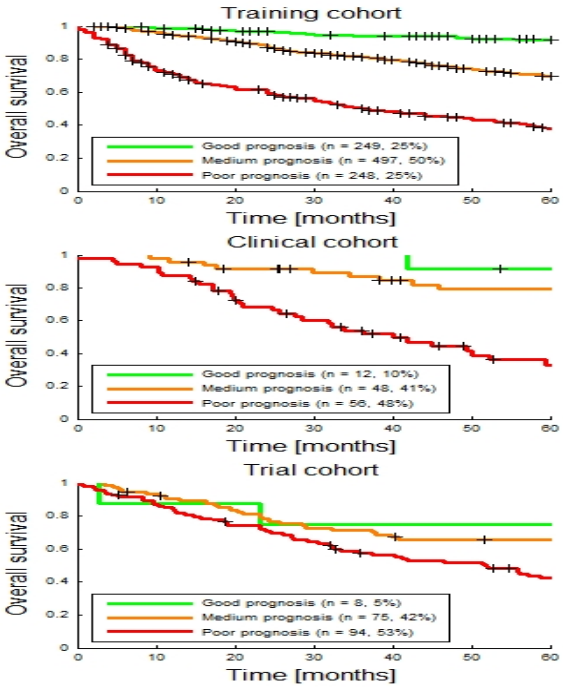

Figure 1: Kaplan Meier survival curves for the training, clinical and trial cohort respectively.

Conclusions: The technical infrastructure and model is able to support the prognosis prediction of laryngeal carcinoma patients in clinical cohort which could be used in future to personalize treatment, improve treatment quality and evaluate these practice changes. The model does not work well for the biased patient population in the trial cohort.

PD-0423

Telomerase: a new target to individualize HNSCC treatment?

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Purpose/Objective: The aim of the studies was to assess the role of telomerase in immortality state of HNSCC cell lines.

Malignant tumors of the head and neck region differs natural clinical outcome and prognosis depending on the histological diagnosis and location. Despite that the diagnostic and therapeutic problems are similar. The gold standard of therapy these tumors, with a view to maximal radicalization of treatment, is combined therapy involving the local (surgery, radiotherapy) and systemic treatment (chemotherapy). Recently, the great interest arouses individualization of cytostatics selection, as well as gene therapy application. One of the targets is telomerase as the enzymatic complex participating in immortality of cancer cells.

Materials and Methods: Knock down of telomerase (TERT subunit) by lentiviral vectors encoding shRNA on cancer cell lines derivated from HNSCC tumors (head and neck cancers are squamous cell carcinoma) and KB cells was carried out. The level of silencing was performed by qPCR and immunofluorescence staining. The impact of drugs (cisplatin and decetaxel) and ionizing radiation on the induction of apoptosis, cell cycle, yH2AX and cell proliferation rate via immunofluorescence staining, cytometer analysis and qPCR was also estimated. The telomere length measurement using a method based on qPCR was assessed.

Results: There was shown an influence of telomerase depletion on apoptosis, proliferation rate and yH2AX expression both in non-treated control cell lines as on cell population after chemoradiotherapy. Moreover, the influence of telomerase knock-down on increased chemo-and radioresistance in vitro was proved.

Conclusions: Our results demonstrate increased chemo- and radiosensitivity in HNSCC cell lines after telomerase silencing. Telomerase is likely to play a pivotal role in chemo- and radioresistance of selected HNSCC cell lines, however further studies are needed.

Poster Discussion: Young Scientists 2: Lung cancer

PD-0424

Immune response profile assessment after stereotactic radiotherapy for lung cancer

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Purpose/Objective: Lung cancer is the most frequent malignant neoplasm with extremely poor prognosis. In earliest stages of the disease clinical benefit of radical surgical excision is similar to stereotactic body radiotherapy (SBRT). The success of high-dose SBRT is certainly related to the X-rays-induced apoptosis. However other, not-well characterized mechanisms may also contribute. We hypothesize that high dose SBRT causes an increase in the expression of multipeptide tumor antigens, which further may lead to a stimulation of specific immune response. Those mechanisms are not fully understood therefore we have designed a prospective study to determine radiation-induced immune response changes. The protocol was approved by Local Ethical Committee.

Objective: to assess the effect of high dose ionizing radiation on changes in the expression of T cell activation markers (CD25, CD28, CTLA-4, PD-1) , transcription factors associated with Th1, Th2, Th17 and regulatory T cell subpopulations of CD4(+) T cells (T-bet, GATA-3, ROR-γt and FoxP3, respectively) in patients treated with SBRT for T1/2N0 M0 NSCLC.

Materials and Methods: Study group consists of patients with newly diagnosed NSCLC stage T1/2N0M0 qualified for SBRT. Patients with comorbidities of significant impact on immune system are excluded. Peripheral blood samples are collected three times from patients: before the treatment (n = 44), 2 weeks (n = 37) and 12 weeks (n = 21) after SRBT. Expression level of selected proteins on peripheral blood lymphocytes is measured by flow cytometry.

Results: The study was started in November 2013. Since then 44 consented patients were included. SBRT was planned and delivered according to the Department's treatment standards. Analysis of blood samples has shown that SRBT significantly increases numbers of PD-1(+) and CTLA-4(+)