

## HDR endobronchial brachytherapy (HDR-BT) in the management of advanced lung cancer – comparison of different protocols

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**Purpose:** The aim of this work is to compare results of palliative HDR-BT using various treatment protocols with the view to analysing differences in survival and diminishing breathing difficulties.

**Material and methods:** Six hundred and forty eight patients with advanced lung cancer were treated by HDR-BT at the Greatpoland Cancer Center. All the patients were divided into two groups according to their clinical stage and the Karnofsky score – those with the Karnofsky score lower than 60 were qualified for a single fraction treatment. Three hundred and three (46.8%) patients received a total dose of 22.5 Gy in 3 fractions once a week, 345 (53.2%) patients received one single fraction of 10 Gy. They were under clinical and endobronchial observation as regards survival rates, local remission and subsiding dyspnoea, breathing, cough and haemoptysis in the first, third, sixth and twelfth month of observation.

**Results:** Four weeks after the end of treatment subjective improvement (subsidence of all symptoms) was ascertained in 573/648 (88.4%) patients. There was no difference in the length of survival time between the two groups of patients. Patients showing improvement survived longer than those who showed no change or progression. In multivariate analysis others statistically important prognostic factors were: clinical stage of primary tumour (F Cox,  $p = 0.000002$ ) and dyspnoea (F Cox,  $p = 0.001$ ). In univariate analysis correlations between survival and Zubrod score, grade of cough, hemaptoe and pain were found.

**Conclusions:**

1. The two treatment protocols showed similar efficiency in overcoming difficulties in breathing.
2. Prognostic factors significantly correlated with survival length were: grade of remission after treatment, clinical stage and performance status.