Efficacy comparison between hyperfractionated and conventional fractionated radiotherapy for non-small cell lung cancer

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Objective
To investigate the efficacy of hyperfractionated radiotherapy (HRT) for non-small cell lung cancer (NSCLC).

Methods
Fifty patients with stage I - III NSCLC were treated in our department from Oct. 1995 to Jan. 2000. All patients had the pathological diagnosis. The patients were divided into two groups according to their entrance sequence: 25 patients were treated by HRT as the treatment group given the tumor dose; mean DT 68.9–74.6 Gy/6–6.5 weeks; 25 patients were irradiated by conventional fractionation (CF) as the control group given DT 64.2–70.4 Gy/6–7 weeks; mean DT 68.6 Gy/6–7 weeks. No patients received chemotherapy or immunotherapy before this treatment.

Results
The effective rate after the radiotherapy was 80% (20/25) in the HRT group and 48% (12/25) in the CF group. The 1-2-3-year survival rate of the HRT group was 68% (17/25), 60% (15/25), and 36% (9/25) respectively. The 1-2-3-year survival rate of the CF group was 52% (13/25), 32% (8/25), and 20% (2/10) respectively. The 2-year survival rate was significantly different between two groups (χ2 = 3.95, P < 0.05). The 1-2-3-year local progression-free rate of the HRT group was 72% (18/25), 60% (15/25), and 44% (11/25) respectively. The 1-2-3-year local progression-free rate of the CF group was 64% (16/25), 48% (12/25), and 32% (8/25) respectively.

Conclusion
According to the direct calculation, the efficacy of HRT for NSCLC is higher than that of CF. It is necessary to follow up the long term survival for the patients treated with HRT.

Key words
Prospective  Hyperfractionated radiotherapy  Non-small cell lung cancer  Efficacy
1.4 肺癌的放疗方法

4 实体瘤的近期疗效标准

1.5 疗效评价

2 放疗反应: 超分割放疗组出现轻、中度放射性肺炎、食管炎共 8 例, 轻度食管炎 2 例, 超分割放疗组消退率为 80%。常规放疗组分别为 4 例; 常规放疗组轻、中度放射性肺炎、食管炎共 3 例, 未见重度放射性肺炎; 常规放疗组消退率 14/16 例, 为 88%。两组放射性肺炎、食管炎的消退率差有统计学意义 (χ² = 5.56, P < 0.05)。

2.1 疗效: 超分割放疗组显效及有效者分别为 16/20 例和 4/20 例, 总有效率为 80%。对照组分别为 3/12 例和 2/12 例, 总有效率为 33.3%。两组总有效率有显著性差异 (χ² = 3.95, P < 0.05)。7/20 例超分割放疗组肿瘤消退至完全消退。照射肿瘤量失访之日起按死亡计算。生存日期从放疗之日起计算。全例随访期中位生存期 2530 Gy/2.53 周, 常规放疗组分别为 60 例, 65 Gy/56.2 例。两组生存率均显著高于常规放疗组, 表明超分割放疗的近期疗效优于常规放疗。

3 结论：超分割放疗可使肺部肿瘤的局部控制率和生存率提高, 而临床副作用较轻, 值得进一步积累资料。

参考文献