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¹⁸F-FDG显像评价晚期非小细胞肺癌化疗疗效及预后

Evaluation on efficacy of chemotherapy and prognosis of advanced non-small cell lung cancer with ¹⁸F-FDG imaging

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英文关键词: [Carcinoma, non-small-cell lung](#) [Fluorodeoxyglucose F18](#) [Radionuclide imaging](#) [Therapy](#) [Prognosis](#)

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中文摘要:

目的 探讨¹⁸F-FDG显像对评价晚期非小细胞肺癌(NSCLC)早期疗效及判断预后的价值。方法 32例晚期NSCLC患者分别在化疗前1周内及化疗后3周接受¹⁸F-FDG显像。对全部患者均随访1年,根据病灶影像学变化判断化疗疗效,并分为有效组和无效组,对比分析两组患者治疗前、后肿瘤与对侧正常组织放射性计数比值(T/N值)及其变化百分率(T/N变化百分率)与疗效和预后的关系,同时比较不同病理类型之间T/N值和T/N变化百分率的差异。通过ROC曲线找出判断疗效的最佳T/N变化百分率,以此数值为界将患者分为两组,绘制两组患者的1年累积生存曲线,Log-rank检验评估两组生存率的差异。结果 有效组和无效组化疗前T/N值分别为 7.41 ± 3.91 和 6.97 ± 2.49 ,差异无统计学意义($P > 0.05$)。有效组化疗3周后T/N值(5.43 ± 2.86)低于无效组的 8.51 ± 4.61 ($t = 2.18, P < 0.05$),有效组T/N变化百分率(-21.84 ± 25.66)%低于无效组的(23.78 ± 44.35)% ($t = 3.42, P < 0.05$)。鳞癌患者和腺癌患者在化疗前T/N值分别为 8.35 ± 2.56 和 6.35 ± 3.30 ,化疗3周后分别为 8.90 ± 5.56 和 5.97 ± 2.42 ,T/N变化百分率分别为(8.52 ± 58.00)%和(0.61 ± 30.20)%,差异均无统计学意义($P \geq 0.05$)。患者总体1年生存率为78.13%;有效组患者1年生存率为100%,高于无效组的61.11% ($\chi^2 = 6.62, P < 0.05$)。ROC曲线分析得出评价疗效的最佳的T/N变化百分率为下降10%,其敏感度和特异度分别为88.9%和78.6%,ROC曲线下面积(AUC)为0.89,T/N变化百分率下降超过10%组的1年生存率为100%,高于不足10%组的63.27% ($\chi^2 = 5.76, P < 0.05$)。结论 化疗后的T/N变化百分率可作为评价晚期NSCLC疗效和判断预后的重要参考指标。

英文摘要:

Objective To explore the value of ¹⁸F-FDG imaging in assessing the early efficacy of chemotherapy and prognosis of advanced non-small-cell lung cancer (NSCLC). **Methods** Thirty-two patients with advanced NSCLC received ¹⁸F-FDG scan 1 week before and 3 weeks after chemotherapy. All patients were followed up for 1 year. The patients were divided into effective group and non-effective group according to the efficacy. The correlation of tumor to non-tumor (T/N) value and T/N declining percentage with curative effect was analyzed. The difference of T/N value and T/N declining percentage in the effect between pathological types was compared. According to ROC curve, the optional cutoff in the early prediction of therapeutic response was found. Log-rank tests were performed to assess the differences of survival rate. **Results** T/N value of effective group and non-effective group before therapy was 7.41 ± 3.91 and 6.97 ± 2.49 , respectively ($P > 0.05$). T/N value of effective group 3 weeks after chemotherapy (5.43 ± 2.86) was lower than non-effective group ($8.51 \pm 4.61, t = 2.18, P < 0.05$). T/N value percentage change of effective group (%) was lower than non-effective group ($t = 3.42, P < 0.05$). Before chemotherapy, T/N value of the squamous cell carcinoma and the adenocarcinoma was 8.35 ± 2.56 and 6.35 ± 3.30 , while 3 weeks after chemotherapy was 8.90 ± 5.56 and 5.97 ± 2.42 , respectively. T/N value percentage change of the two groups was (8.52 ± 58.00)% and (0.61 ± 30.20)%, respectively (all $P \geq 0.05$). The overall 1 year survival rate was 78.13%, of the effective group was 100%, of non-effective group was 61.11% ($\chi^2 = 6.62, P < 0.05$). Using ROC curve, the optional cutoff in early prediction of therapeutic response was declining percentage 10%, the sensitivity and specificity was 88.9% and 78.6%, respectively, the area under curve (AUC) was 0.89. The 1 year survival rate of patients with T/N value percentage change over or lower than 10% was 100% and 63.27%, respectively ($\chi^2 = 5.76, P < 0.05$). **Conclusion** T/N value percentage change is an important parameter which can early predict therapeutic response and prognosis for advanced NSCLC.

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