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CT透视引导下经皮放射性¹²⁵I粒子永久植入治疗肺恶性肿瘤

CT fluoroscopy-guided percutaneous permanent implantation of ¹²⁵I seed for the treatment of pulmonary malignancies

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中文关键词: [肺肿瘤](#) [¹²⁵I粒子](#) [近程治疗](#) [体层摄影术](#) [X线计算机](#) [X线透视检查](#)

英文关键词: [Lung neoplasms](#) [¹²⁵I seed](#) [Brachytherapy](#) [Tomography](#) [X-ray computed](#) [Fluoroscopy](#)

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中文摘要:

目的 探讨CT透视(CTF)引导下¹²⁵I粒子永久植入治疗肺癌的临床应用价值。方法 对24例肺恶性肿瘤患者施行CTF引导下经皮穿刺放射性粒子¹²⁵I永久植入进行组织间放疗,包括原发性肺癌15例(15个病灶),转移性肺癌9例(13个病灶),共28个病灶,最大直径2.1~7.6 cm(中位直径3.95 cm),单个病灶的处方剂量80~100 Gy。术后定期观察并发症情况,分析肿瘤局部控制率,使用Kaplan-Meier法统计生存率。结果 所有患者均成功耐受手术,手术耗时30~75 min(中位时间46 min),无手术相关严重并发症发生;3例穿刺侧出现少量气胸,4例术后穿刺针道少量出血,无咯血;随访期间未发现放射性肺炎。中位随访时间31.5个月(8~46个月),病灶局部控制率78.57%(22/28);3年累积生存率为55.00%,中位生存时间为38个月(8~46个月),原发性肺癌和转移性肺癌患者生存率差异无统计学意义。结论 CTF为经皮穿刺放射性粒子植入提供实时引导和准确定位,可缩短手术时间,减少手术相关并发症。肺部恶性肿瘤¹²⁵I粒子组织间放疗可达到理想的肿瘤局部控制率,延长患者生存时间。

英文摘要:

Objective To observe the application value of CT fluoroscopy (CTF)-guided percutaneous permanent implantation of ¹²⁵I seeds for the treatment of pulmonary malignancies. **Methods** Twenty-four consecutive patients underwent CTF-guided percutaneous implantation of radioactive ¹²⁵I seeds. There were 15 primary lung cancer patients (15 lesions) and 9 metastatic patients (13 lesions). The maximal diameters of these 28 lesions ranged from 2.1 to 7.6 cm (median, 3.95 cm). A prescription dose of 80-100 Gy was delivered to each lesion. Under CTF-guidance, the lesions were punctured using 18G needles under local anesthesia, and then pre-planned ¹²⁵I seeds were implanted via the needles. The complications and local tumor control rate were documented. The survival was estimated by using the Kaplan-Meier method. **Results** All patients completed the procedure successfully with no technical failure. The procedure consumed 30-75 min (median 46 min), none severe complications occurred. The complications included small asymptomatic pneumothorax in 3 patients and mild intrapulmonary hemorrhage along the needle tracks in 4 patients immediately after the procedure without hemoptysis. No radiation pneumonia was found during the follow-up period. The mean follow-up time was 31.5 months (range 8-46 months). The lesion local control rate was 78.57% (22/28). The total cumulative 3-year survival rate was 55.00%, and the median survival time was 38 months (range 8-46 months). There was no statistical difference of survival rates between primary and secondary lung cancers. **Conclusion** CTF can provide real time guidance and accurate localization of needles and thereafter intratumor ¹²⁵I seed distribution for the procedure of percutaneous ¹²⁵I seeds permanent implantation brachytherapy. It can shorten the length of the procedure and reduce the incidence of complications inherent to puncture. CTF-guided permanent implantation of ¹²⁵I seeds in treatment of malignant lung tumor results in a good local disease control with few complications, and therefore prolongs the survival of the patients.

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