容积CT灌注成像预测宫颈鳞癌放化疗疗效的初步研究

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Title: A primary study of the volume CT perfusion in predicting treatment response in patients with cervical squamous carcinoma treated with chemotherapy and radiation therapy

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摘要: 目的：探讨容积CT灌注成像(vCTP)在预测宫颈鳞癌(CSC)放化疗疗效中的应用价值。方法：对22例经病理活检证实并拟行放化疗治疗的宫颈鳞癌患者行全子宫容积CT灌注扫描，治疗结束后1个月内行常规增强CT复查。按照实体瘤疗效评价标准进行患者分组。对不同疗效组患者的一般资料、宫颈鳞癌血流量（AF）、血容量（BV）及渗透性（PS）、髂外动脉AF进行t检验或Fisher精确概率检验，有统计学差异的CT灌注参数进一步采用ROC曲线分析。结果：22例患者在放化疗后达CR 15例、PR 7例。两组患者年龄、体重指数（BMI）、FIGO分期、病理分级、治疗前肿瘤最长径及最大面积均无统计学差异（P>0.05）；不同疗效患者宫颈鳞癌AF和髂外动脉AF比较,差异均有统计学意义（P<0.05），CR组明显高于PR组；而宫颈鳞癌BV和PS两组间无统计学差异（P>0.05）。ROC曲线分析显示，宫颈鳞癌AF和髂外动脉AF预测宫颈鳞癌放化疗后达CR的AUC分别为0.829和0.876。结论：容积CT灌注参数AF有助于预测宫颈鳞癌放化疗疗效。

Abstract: Objective：To assess the application value of volume CT perfusion（vCTP) in predicting the efficacy of chemotherapy and radiatio therapy（CRT) treatment in patients with cervical squamous carcinoma（CSC).Methods：22 patients with histology proven CSC were enrolled in the study.All patients underwent a whole-uterus vCTP on a 640-slice CT system within one week before CRT，and reconducted a routine contrast-enhanced CT after the treatment.The patients were divided into different groups according to the response evalution criteria in solid tumours（RECIST).The data including patients' general informations，CSC artery flow（AF)，blood volume（BV) and permeability surface（PS)，external iliac artery AF of different groups were compared to explore the clinical index and CTP parameters which can predict the treatment efficacy.Differences were tested using t test or Fisher exact test.The CTP parameters with significant differences between different groups were further analysed by receiver operating characteristic（ROC) curve to assess the efficacy in predicting the treatment result of CRT for CSC.Results：After CRT，15 cases were divided into complete response（CR) group，and 7 cases were in partial response（PR) group．There was no significant differences in patients' age，BMI，FIGO stage，pathological grade，maximum diameter and maximum area before treatment between the two groups（P>0.05).The AF of CSC and external iliac artery in CR group were significantly higher than those in PR group(P<0.05).However no significant differences were found in BV and PS between the two groups(P>0.05).ROC curve analysis revealed that the corresponding AUC of the AF of CSC and external iliac artery to predict the efficacy of CRT for CSC were 0.829，0.876 respectively.Conclusion：The parameters AF of vCTP are helpful to predict the response of CSC patients after CRT.

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