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研究简报

$^{99}Tc^{m}$-ECD SPECT脑血流定量测定

杨仪

苏州大学附属第二医院核医学科

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摘要　建立一种使用99mTc-ECD 为显像剂，SPECT为显像装置，不抽血定量测定局部脑血流的方法。两个不同年龄组正常志愿者共20例，通过静脉弹丸式注射99mTc-ECD，利用动态显像和感兴趣区勾画技术获取大脑半球及主动脉弓的时间放射性曲线，同时对曲线进行死时间校正，结合图形分析方法确立脑血流灌注率（Ku），大脑半球的灌注指数（BPI）获得平均脑血流量（mCBF）。结果显示：20例正常人的脑血流值分别为54.5±5.1 ml/100g/min（5～16岁），49.4±3.2ml/100g/min（22～32岁），不同年龄组间有显著差异。本测定方法具有无创性，实际工作中的可操作性等特点，在临床上便于广泛开展，有一定应用价值。

关键词　99Tcm-ECD　SPECT　脑血流

分类号

Abstract　The aim is to establish a non-invasive method on quantification measurement of cerebral blood flow. Dynamic radionuclide angiography was performed in 20 normal youth subjects after bolus injection of 99mTc-ECD into the right cubital vein of the right arm. ROIs were hand-drawn over the aortic arch and bilateral brain hemispheres to produce time-activity curves respectively which were corrected by dead-time. The unidirectional influx rate (ku), brain perfusion index (BPI) were obtained by graphical picture analysis. And then BPI was converted to CBF. The mean of the CBF the two groups are 54.5±5.1 ml/100g/min（5～16 years）and 49.4±3.2ml/100g/min（22～32 years）respectively. There is significant deviation between the two groups. This method is non-invasive, operable and in favor of clinical application.

Key words　99Tcm-ECD　SPECT　cerebral blood flow

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通讯作者　杨仪 yaungyi@gmail.com