

[1]罗万春.阿尔茨海默病和轻度认知损伤诊断的建模分析[J].第三军医大学学报,2013,35(15):1613-1615.

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## 阿尔茨海默病和轻度认知损伤诊断的建模分析

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Title: Modeling for diagnosis of Alzheimer' s disease and mild cognitive impairment

作者: [罗万春](#)  
第三军医大学生物医学工程学院数学与生物数学教研室

Author(s): [Luo Wanchun](#)  
Department of Mathematics and Biomathematics, School of Biomedical Engineering, Third Military Medical University, Chongqing, 400038, China

关键词: [阿尔茨海默病](#); [轻度认知损伤](#); [判别分析](#); [ROC曲线](#)

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摘要: 目的 建立阿尔茨海默病和轻度认知损伤的诊断模型。 方法 用ROC曲线进行指标筛选,再用判别分析进行诊断模拟,最后选出正确率最高的判别函数。 结果 ROC曲线筛选出4项指标。在包括正常人、阿尔茨海默患者以及轻度认知损伤患者的研究对象中,经过100次随机抽样诊断模拟,线性判别分析诊断的平均正确率达71.42%,非线性判别的平均正确率达74.75%,最高正确率为82.05%,并得到了相应的判别函数。 结论 非线性判别函数可有效诊断阿尔茨海默病和轻度认知损伤。

Abstract: Objective To establish a diagnostic model of Alzheimer' s disease and mild cognitive impairment. Methods Receiver operator curve (ROC) curve was used to screen the indices, discriminant analysis was carried out for diagnosis simulation, and the discriminant function with the highest accuracy was selected. Results Four indices were selected by ROC curve. After 100 times of random sampling for diagnosis simulation in the objects including normal people, patients with Alzheimer' s

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disease and patients with mild cognitive impairment, the average diagnosis accuracy of linear discriminant analysis was 71.42% and that of nonlinear discriminant analysis was 74.75%. The highest accuracy was 82.05%, and the corresponding discriminant function was obtained. Conclusion Nonlinear discriminant analysis can be used to diagnose Alzheimer' s disease and mild cognitive impairment.

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