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中国健康成人丘脑体积与年龄的相关性

Correlation between the thalamic volume and age of the healthy Chinese adults

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中文摘要:

目的 测量1000名中国健康成人丘脑体积,分析丘脑体积与年龄的相关性,为临床诊断丘脑病变提供依据。方法 从全国不同地区选择健康汉族成人志愿者1000名,按年龄分为5组:18~30、31~40、41~50、51~60、61~80岁组,每组200名,男、女各半。采用1.5T MR采集图像,应用Aquarius软件手动逐层勾画出丘脑边界,软件自动测算出其体积。分析丘脑体积与年龄之间的相关性,及不同年龄段之间丘脑体积的差异。结果 18~30、31~40、41~50、51~60、61~80岁组右侧丘脑体积正常值范围分别为(6069.38±531.90)mm³、(5894.67±538.93)mm³、(5357.43±479.97)mm³、(5396.08±445.58)mm³、(4791.44±558.15)mm³,左侧丘脑体积正常值范围分别为(6179.82±534.29)mm³、(6046.97±561.83)mm³、(5425.67±470.90)mm³、(5551.65±526.47)mm³、(4866.00±551.73)mm³。分别比较各年龄段间左侧和右侧丘脑体积,除18~30岁与31~40岁、41~50岁与51~60岁年龄组差异无统计学意义外,其余各组间差异均有统计学意义(P均<0.05)。左、右侧丘脑体积均与年龄呈负相关(r=-0.63、-0.65,P<0.05)。结论 丘脑体积与年龄呈负相关,即随着年龄增大,丘脑体积逐渐减小。

英文摘要:

Objective To measure thalamic volume of 1000 healthy Chinese adults, and to analyze the relationship between thalamic volume and age, in order to provide evidence of clinical diagnoses for thalamic diseases. **Methods** Totally 1000 healthy Chinese adults of Han nationality aged from 18 to 80 years were selected and divided into 5 groups by age: 18—30, 31—40, 41—50, 51—60 and 61—80 years. Each group included 200 subjects composed of half male and half female. Brain images were obtained with a 1.5T MR, and outline of the thalamic was drawn with Aquarius software. Then the thalamic volume was calculated automatically. The relationship between thalamic volume and age, and the differences between each two groups were analyzed respectively. **Results** The right thalamic volume of 18—30, 31—40, 41—50, 51—60 and 61—80 year-old group was (6069.38±531.90)mm³, (5894.67±538.93)mm³, (5357.43±479.97)mm³, (5396.08±445.58)mm³ and (4791.44±558.15)mm³, respectively, while the left thalamic volume was (6179.82±534.29)mm³, (6046.97±561.83)mm³, (5425.67±470.90)mm³, (5551.65±526.47)mm³, (4866.00±551.73)mm³, respectively. Except 18—30 and 31—40, 41—50 and 51—60 year-old group, statistical differences of thalamic volume were found between each other two groups in both sides (all P<0.05). The left and right thalamic volume were all negatively correlated with age (r=-0.63, -0.65, P<0.05). **Conclusion** There is significantly negative correlation between the thalamic volume and age. The thalamic volume decreases while the age grows.

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