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## 精神分裂症患者脑部皮层厚度分析

### Analysis of brain cortical thickness in patients with schizophrenia

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中文摘要:

目的 观察精神分裂症患者脑皮层厚度的变化。方法 对29例精神分裂症患者(研究组)及26名正常人(对照组)应用三维扰相梯度回波(3DSPGR)序列进行MR扫描,采集脑高分辨力结构图像;利用Freesurfer软件进行图像分割、配准及平滑,建立一般线性模型,以双样本t检验比较研究组和对照组皮层厚度的差异。结果 ①与对照组比较,研究组患者左侧颞中回、中央前回、额上回、额中回皮层变薄,右侧额中回、眶额回、中央后回、额中回上部及中央前回皮层变厚( $P < 0.01$ );②与对照组皮层厚度残差比较,随年龄变化,研究组左侧颞中回、颞下回、中央前回、额上回、额中回、眶额回、右侧额中回、额下回眶部、中央前回、中央后回及颞中回皮层变薄( $P < 0.01$ );③与对照组相比,研究组患者随着年龄变化左侧中央后回、右侧额上回皮层的厚度变薄;右侧额下回岛盖部、颞下回及岛叶皮层变厚( $P < 0.01$ )。结论 精神分裂症患者存在额叶及颞叶皮层厚度改变。

英文摘要:

**Objective** To explore the changes of the brain cortical thickness in patients with schizophrenia. **Methods** Totally 29 patients with schizophrenia were included in study group, and 26 healthy subjects were regarded as the control group. 3D-spoiled gradient recalled acquisition in the steady-state (3DSPGR) sequence scanning was performed, and high-resolution structure image data of each subject were obtained. The data were processed using Freesurfer software, including image segmentation, registration and smoothing, and the GLM model was then built. Two samples *t* test was performed to compare brain cortical thickness of study group and control group. **Results** ① Compared with control group, the cortex of left temporal gyrus, medial frontal gyrus, superior frontal gyrus, middlefrontal gyrus cortical were thinner, while of right middle frontal gyrus, lateral orbitofrontal gyrus, postcentral, rostralmiddlefrontal gyrus and precentral cortex were thicker in study group (all  $P < 0.01$ ). ② With age growing, compared with the residuals of cortex thickness in control group, the cortex of left middle temporal gyrus, inferior temporal gyrus, medial frontal gyrus, superior frontal gyrus, middle frontal gyrus, orbitofrontal gyrus, and the right middle frontal gyrus, parsorbitalis, precentral gyrus, postcentral gyrus and middle temporal gyrus became thinner in the study group (all  $P < 0.01$ ). ③ With age growing, cortex thickness of left postcentral gyrus and the right superiorfrontal gyrus were thinner in the study group, and of the right inferior frontal gyrus, inferior temporal gyrus and the insular became thicken (all  $P < 0.01$ ). **Conclusion** Cortex thickness of frontal and temporal cortexes changed in patients with schizophrenia.

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