·基础与临床研究·

多次烧结对二硅酸锂玻璃陶瓷颜色和透光性的影响

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【摘要】 **目的**　探究烧结次数对二硅酸锂玻璃陶瓷的颜色（△E）和透光性（τ）的影响。**方法**　采用热压铸工艺制作二硅酸锂玻璃陶瓷（IPS e.max Press）片状试件（直径 10mm，厚度 1mm）30 个。打磨抛光后按照随机列表法将试件随机分为 6 组，每组 5 个。在烤瓷炉中分别烧结 0（对照组）、1、2、3、4、5 次，用分光测色计和透光率测试仪分别测量各试件的色彩参数（L*a*b*）和透光性（τ），并计算出色差（△E）。应用 SPSS17.0 软件进行统计分析。每组中随机抽取 2 个试件用 X 线衍射仪 (XRD) 分析其晶相组成。**结果**　试件反复烧结后的色差变化范围为 0.88~2.45，明度值明显降低（$P<0.05$），a*、b*、τ 值明显增大（$P<0.05$）。在多次烧结后试件的晶相保持不变，主晶相（$Li_2Si_2O_5$）的衍射峰强度增大。**结论**　烧结次数会影响二硅酸锂玻璃陶瓷基底冠的颜色和透光性，这可能与主晶相的晶体含量增加有关。

【关键词】 烧结　玻璃陶瓷　二硅酸锂　色彩参数　透光性

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Effect of repeated sintering on color and translucency of lithium disilicate glass-ceramic

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【**Abstract**】 **Objective**　To investigate the effects of sintering times on color and translucency of lithium disilicate glass-ceramic. **Methods**　Thirty disc-shaped specimens were made from IPS e.max Press ingnots using lost-wax and hot-pressed ceramic fabrication technology and randomly divided into six groups, each group of five specimens. The color parameter (L*a*b*) and the translucency parameter (τ) of these specimens after different times of sintering (0, 1, 2, 3, 4 and 5 times) were measured and calculated by spectrocolorimeter and transmitivity test apparatus. The data were analyzed statistically using SPSS17.0 software. Then two specimens from each group were selected to analyze the crystal phase by XRD. **Results**　After repeated sintering, the chromatic aberration ranged from 0.88 to 2.45. With the increasing of sintering times, there were significant reductions in L*（$P<0.05$）and increases in a*,b*, τ （$P<0.05$）. XRD test showed that the crystal phases were not changed after repeated sintering, and the intensity of diffraction pattern of $Li_2Si_2O_5$ was increased. **Conclusion**　Repeated sintering affected the color and translucency of the lithium disilicate glass-ceramic, which might be related to the increased contents

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