

A Catwalk Automated Quantitative Gait-force Analysis System in Carrageenan-Injected Mouse Model

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Carrageenan-injected arthritis in mouse models exhibits similar abnormal walking patterns to rheumatoid arthritis. Thus, by quantitatively evaluating curative value via a walking pattern analysis, we are able to demonstrate the performance of the treatment. Quantification of a walking pattern analysis was evaluated using carrageenan mouse models injected at various sites through a Catwalk system. The system includes a glass panel that a mouse may walk on, a surface light to achieve the principle of total reflection, and a video camera to display the mouse movement. Walking patterns were analyzed using a chain of image processing techniques and a parameter analysis on mouse foot movement. We found that multiple parameters are altered in carrageenan mouse models injected at various sites. The automated quantitative gait analysis may be a useful tool to evaluate state of rheumatoid arthritis

References

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