Objective: The effects of hydrotherapy on an 11-year-old girl with stage III Rett syndrome were investigated.

Methods: The Halliwick method was used to apply hydrotherapy in a swimming pool twice a week for 8 weeks. The girl’s physical abilities were assessed 3 times: before and 5 minutes after a single hydrotherapy session and after 8 weeks of hydrotherapy. The tests included analysis of stereotypical movements, functional hand use, hand skills, gait and balance, hyperactive behaviour, communication and social interaction.

Results: Immediately after hydrotherapy, stereotypical movements decreased and this decrease continued during the following 8 weeks. The girl’s feeding activities and hand skills increased markedly. After 8 weeks of hydrotherapy, her walking balance was improved, interaction with her environment increased and hyperactive behaviour and anxiety decreased.

Conclusion: In conclusion, after the application of hydrotherapy, stereotypical hand movements had decreased and purposeful hand functions and feeding skills increased in this case. Whether hydrotherapy has a positive effect on the functional use of the hand in Rett syndrome should be investigated using more subjects.

Key words: Rett syndrome, hydrotherapy, occupational therapy.

INTRODUCTION

Rett syndrome is a disorder noted to date only in females and characterized by a pervasive developmental disability following an apparently normal early infancy. There is no cure for Rett syndrome. However, a vigorous therapeutic approach, providing physical and occupational therapy, hydrotherapy, horse riding and music therapy, is recommended as a means of improving functional abilities (1–6).

The general aims of hydrotherapy are to promote relaxation, improve circulation, restore mobility, strengthen muscles, re-educate walking, improve co-ordination and function and provide recreation (7, 8).

The aim of this study was to examine the effects of hydrotherapy on a girl in stage III of Rett syndrome.
movement appeared. In addition, the amount of stereotypical movements decreased immediately after the hydrotherapy and continued to decrease during the following 8 weeks. Feeding skills and hand skills in transferring objects and holding them for 10 seconds improved following 8 weeks of hydrotherapy. Before the application of hydrotherapy, gait apraxia, trunk ataxia and imbalance were found in the physical assessment. After 8 weeks of hydrotherapy, walking balance improved, interaction with the environment increased and hyperactive behaviour and anxiety decreased.

DISCUSSION

Hydrotherapy promotes balance and helps develop protective responses, as well as giving relief and pleasure to Rett syndrome sufferers (7, 8). In the case described here, the amount of stereotypical movements decreased after hydrotherapy and purposeful hand functions and feeding skills increased.

Appropriate intervention strategies using different therapeutic techniques have been described and they are effective in facilitating communication, maintaining hand function and ambulation, preventing deformities and reducing stereotypical hand movements in Rett syndrome. The elbow restraint and hand splints are effective in reducing stereotypical movements in children with Rett syndrome (10–13). However, some children with Rett syndrome react with anxiety during the application of elbow restraints and do not accept the splints. Because hydrotherapy application has a relaxing effect, the girl in our study was calm in the pool and had no stereotypical movements.

In conclusion, after hydrotherapy stereotypical hand movements decreased and purposeful hand functions and feeding skills increased in this case. Whether hydrotherapy has a positive effect on the functional use of the hand in Rett syndrome should be investigated using more subjects.

REFERENCES