

# Risperidone for Controlling Aggressive Behavior in a Mentally Retarded Child : A Case Report

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## Abstract

Risperidone is an atypical antipsychotic agent with dopamine and serotonin antagonistic effects. It is an effective treatment for reducing aggressive behavior in adults with mental retardation. The use of risperidone in a severely mental retarded child with aggression is described. Risperidone was able to reduce the aggressive behavior in this patient. No serious side effect was found. This case illustrated that risperidone is effective and well tolerated in treating aggressive behavior in children with severe mental retardation. However, the anti-aggressive effect of risperidone in mentally retarded children remains to be seen in a larger sample-size study.

**Key word :** Risperidone, Aggression, Child, Mental Retardation

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J Med Assoc Thai 2001; 84: 893-896

Aggression is defined as a forceful physical, verbal, or symbolic action which may be directed toward the environment, another person, or the self (1). This is a common problem of patients with mental retardation(2). The results of neurochemical studies have shown the association between dopaminergic/serotonergic systems and aggression (3). Therefore, several lines of evidence have supported the use of conventional antipsychotics and

serotonergic agents for treating aggression in these patients.

Risperidone is an atypical antipsychotic agent with dopamine and serotonin antagonistic effects(4). It is effective for treating schizophrenia and other psychotic disorders. In comparison to conventional antipsychotic agents, e.g., haloperidol, risperidone has a much lower propensity to induce movement disorders. The results of a study in mode-

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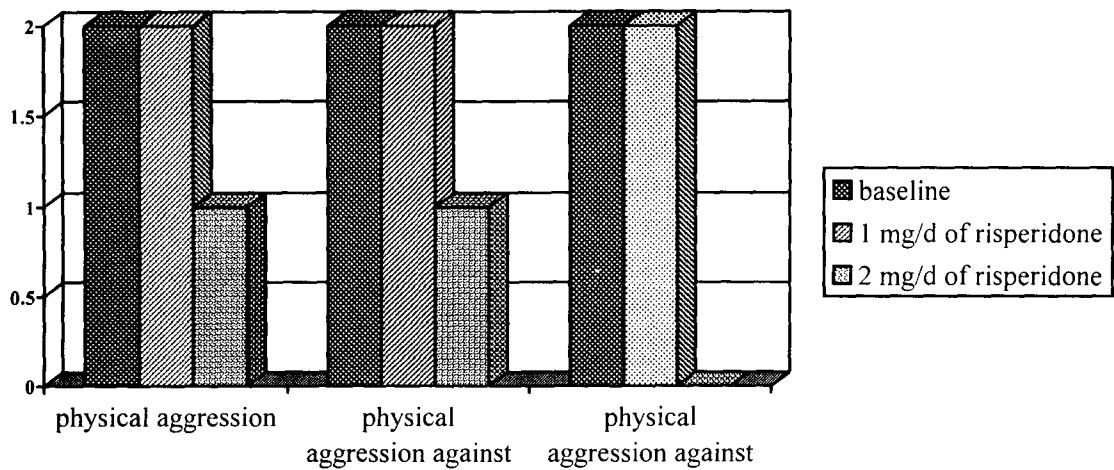


Fig. 1. The scores of Overt Aggression Scale before and after risperidone treatment.

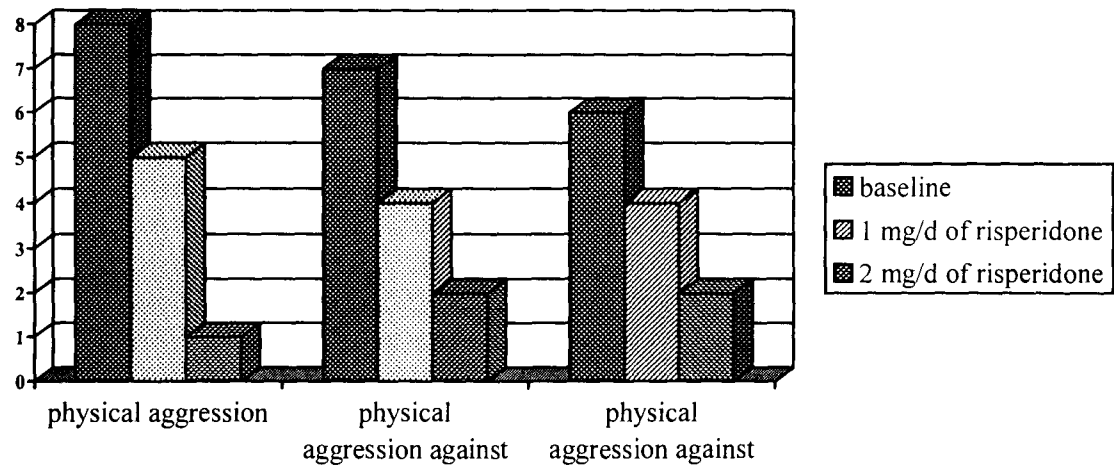


Fig. 2. The frequency (times/day) of aggression before and after treatment.

rate to profound mentally retarded adult patients have shown the significant reduction of aggressive behavior by using risperidone<sup>(5)</sup>. We, therefore, decided to give risperidone to a mentally retarded child with aggressive behavior.

CASE REPORT

A 6-year-old boy with mental retardation, spastic cerebral palsy, and blindness was brought to a child and adolescent psychiatric clinic. The cause

of mental retardation was prematurity with the birth weight of 1,300 grams. The left-eye blindness was caused by retinopathy of prematurity and right-eye blindness was caused by microthalamos with leukoma. Apart from agitation and irritability, his major behavioral problem was aggressive behavior. He frequently banged and punched his head, beat his mother, and destroyed things.

Initially, there was no beneficial effect in giving 50 mg/day of thioridazine for 2 months.

Because the patient could not tolerate the sedative effect of thioridazine, the dose of thioridazine could not be increased. The physician, therefore, decided to switch the medication from thioridazine to risperidone. Before the switching, the severity and frequency of aggressive behavior were assessed by the use of Overt Aggression Scale (OAS)(6). The patient partially improved after he was given 1mg/day of risperidone for 1 month. The dose of risperidone was increased to 2 mg/day and maintained at this dose for 1 month. The patient's aggressive behavior was much improved after the commencement of risperidone. No serious side effect, in particular drug-induced movement disorders, was found. Fig. 1 and 2 show the OAS scores and frequency of aggressive behavior at baseline, 1 month after 1 mg/day risperidone treatment, and 1 month after 2 mg/day risperidone treatment.

## DISCUSSION

Drug treatment for aggression in mentally retarded children is a complicated issue. Firstly, only a few agents are available for treating this condition. Secondly, many children show little response to the available agents. Lastly, children are sensitive to adverse drug effects, in particular movement disorders induced by conventional antipsychotic agents. However, some conventional antipsychotic agents such as haloperidol, are frequently used for treating aggression in mental retardation. Because of their

high prevalence of drug-induced movement disorders, many patients cannot tolerate them. Although some serotonergic agents, e.g., fluoxetine(2), buspirone(7), are used in some patients, their efficacy has not been well established.

Anti-aggressive effects of atypical antipsychotic agents, e.g., risperidone(5), clozapine(8), have been reported in adults with mental retardation. We, therefore, decided to give risperidone to a mentally retarded child with aggression. It can be seen that the aggressive behavior of this patient was much ameliorated after he was given risperidone.

Because the disturbance of dopaminergic and serotonergic systems may cause aggression, the dopamine and serotonin antagonistic effects of risperidone may have played a role in relieving aggressive behavior in this case. In controlling aggressive behavior, the superiority of risperidone to thioridazine, a conventional antipsychotic agent, remains to be seen in a larger sample-size study.

## SUMMARY

Risperidone was effective in ameliorating both the severity and frequency of aggression in a mentally retarded child. With low propensity to induce movement disorders, risperidone should be a promising treatment for controlling aggressive behavior in mentally retarded children. However, its effectiveness remains to be seen in a larger sample-size study.

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## ริสเพอริโดนเพื่อการควบคุมพฤติกรรมก้าวร้าวในเด็กปัญญาอ่อน: รายงานผู้ป่วย

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ยาริสเพอริโดนเป็นยาต้านโรคจิตชนิดผิดปกติที่ออกฤทธิ์ด้าน dopamine และ serotonin ยาริสเพอริโดนมีประสิทธิภาพในการลดพฤติกรรมก้าวร้าวในผู้ใหญ่ที่ป่วยเป็นปัญญาอ่อน ผู้นิพนธ์ได้ใช้ยาริสเพอริโดนในเด็กปัญญาอ่อนรุนแรงซึ่งมีพฤติกรรมก้าวร้าวและพบว่ายาริสเพอริโดนสามารถลดพฤติกรรมก้าวร้าวได้โดยไม่พบผลข้างเคียงที่รุนแรง จากตัวอย่างผู้ป่วยรายนี้แสดงให้เห็นว่ายาริสเพอริโดนมีประสิทธิภาพและไม่มีผลข้างเคียงที่รุนแรงในการรักษาพฤติกรรมก้าวร้าวในเด็กปัญญาอ่อนรุนแรง อย่างไรก็ตาม ฤทธิ์ด้านก้าวร้าวดังกล่าวของยาริสเพอริโดนในเด็กปัญญาอ่อนยังคงต้องศึกษาต่อไปในงานวิจัยที่มีกลุ่มตัวอย่างขนาดใหญ่

**คำสำคัญ :** ยาริสเพอริโดน, ความก้าวร้าว, เด็ก, ปัญญาอ่อน

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