Quetiapine for Tic Disorder : A Case Report

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Abstract

Tic disorders happen in nearly 20 per cent of children. There is no "best drug" to treat this illness. Potent antipsychotics e.g. haloperidol and pimozide, are the most effective drugs but their limitations are their extrapyramidal side effects (EPS). Risperidone has been proved on efficacy for tic disorders but EPS still remain, even though it was claimed to be less. Thus, quetiapine, a newer atypical neuroleptic with the same action as risperidone and produces fewer EPS, was included in this study.

Objective: To study the efficacy and side effects of quetiapine in tic disorders.

Method: A case report of a 19-year-old female patient with tic disorder who had taken haloperidol 2 mg/d with benzhexol HCl 2-4 mg/d, then switched to risperidone 1.5 mg/d with benzhexol HCl 4 mg/d because of acute dystonia and oculogyric. She was then prescribed quetiapine, 50 mg/d as a starting dose without benzhexol HCl, because of the remaining symptoms and EPS. The severity of the symptoms was assessed monthly using the Behavior Rating Scale. The dose was increased by 50 mg/d weekly for a better outcome.

Results: The tic was improved after the first week and disappeared for three weeks with 150 mg/d of quetiapine. However, the tic returned again, but less frequently (20%). Thus, the dose was stepped up to 200 mg/d. One week later, the patient reported that the tic has disappeared.

Conclusion: Quetiapine showed the efficacy and fewest EPS in this patient. However, a further clinically controlled trial must be carried out before quetiapine can become the first-line treatment for tic disorders.

Key word : Tic Disorder, Treatment, Quetiapine, Atypical Neuroleptic, Atypical Antipsychotic, Tourette's Syndrome

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Tic is defined as sudden, rapid, purposeless, repetitive, nonrhythmic, stereotyped movements or vocalizations. Transient tic disorder is defined by the presence of motor or phonic tic that has been present for less than 1 year[1], or chronic, with a course that lasts more than a year, and can be either primary (idiopathic) or secondary. Tourrette's syndrome (TS) is defined by the presence of both motor and phonic tic that has persisted for at least 1 year. Tic typically has a peak period of recognition in the early school years. Tic is temporarily suppressible for minutes or hours. It has been estimated that as many as one in five children have had tic at some point in the first 10 years of life[2-4]. Treatment of tic disorders are : 1) behavioral therapy ; positive reinforcement programs which appear to be most helpful in the management of tic disorders. 2) pharmacotherapy ; the most commonly employed pharmacologic interventions in the treatment of tic and Tourette's syndrome in children and adults are the neuroleptics agents haloperidol and pimozide, and the atypical neuroleptic agent, risperidone; the alpha$_2$ – adrenergic presynaptic agonists clonidine and guanfacine; and, less often, the benzodiazapine -clonazepam. The potent dopamine D_2 antagonist drugs are the most effective in terms of tic reduction but carry the greatest burden of potential side effects. Haloperidol, pimozide and risperidone are frequently used[3]. Side effects include sedation, weight gain, impaired academic performance, social anxiety and extrapyramidal movement disorders characterized by choreoathetoid, bradykinesia, and akathisia.

Quetiapine (Seroquel) is a new antipsychotic drug which is a promising serotonin-dopamine antagonist (SDA) with efficacy at least equal to that of haloperidol and chlorpromazine. It is superior to placebo and its extrapyramidal side effect (EPS) is similar to placebo. Adverse effects include drowsiness, increased heart rate, weight gain, and agitation. Quetiapine is a dibenzothiapine with more potent 5-HT_2 than D_2 receptor-blocking properties, and it is related to the clozapine and fluperlapine molecules[5]. Quetiapine is an effective antipsychotic agent in acutely exacerbated schizophrenic and schizoaffective patients, it may be useful in the same nonschizophrenic diagnoses as other SDAs, with the advantage of not being associated with extrapyramidal adverse effects including tic disorder. A MEDLINE review of the literature yielded no prior published reports of quetiapine being used to treat tic patients. Therefore, we report the case of a patient with tic disorder who was treated with quetiapine.

CASE REPORT

A 19-year-old woman was diagnosed with tic disorder in April 1999. Her tic was head turning which had occurred since she was 3 years old. Her neck muscle was always spastic whenever she turned her head or even started to move. Her symptom worsened when she felt embarrassed. It always occurred in the daytime and aborted during sleeping hours.

One year ago, she went to a hospital to seek help. She was prescribed some medicine. However, she stopped the medication because of adverse effects and never went back to see the doctor again. Later on, she came to our Psychiatric Clinic. According to her past history, she had had one febrile convulsion at the age of 1 and none since. No other illness or abnormality was cited by her. Physical and neurological examination were within normal limits except her head turned to the left side with jerking, the uvula and tongue also deviated to the left side.

A diagnosis of tic disorder was given and she was started with 2 mg of haloperidol at bed time with benzhexol 2 mg twice a day. Before prescribing the medication, she was asked to rate her symptoms for baseline information at follow-up by using the Behavior Rating Scale adapted from Goldberg et al[6]. Two weeks later she reported some improvement. The severity of thesymptom had significantly been reduced from baseline 10 to 7 at the end of one month. She complained of drowsiness and extrapyramidal side effects (EPS) i.e. oculogyric crisis and muscle fasciculation. (line "a" in the Fig. 1)

Even though haloperidol was effective in reducing the tic, the side effects were uncomfortable and unbearable to the patient. Thus, haloperidol was changed to risperidone at 0.5 mg as the starting dose plus benzhexol as needed for the extrapyramidal side effect (line "b"). The symptoms somewhat subsided as seen on the severity scale. There was no EPS at this month (line "c"). In order to eradicate her tic, the dose of risperidone was increased to 1.5 mg/d. After adjusting to the new dose, the patient reported that she felt better because her symptoms had improved to about 80 per cent. However, during this period, oculogyric crisis persisted off and on if she did not take benzhexol. (line "d")

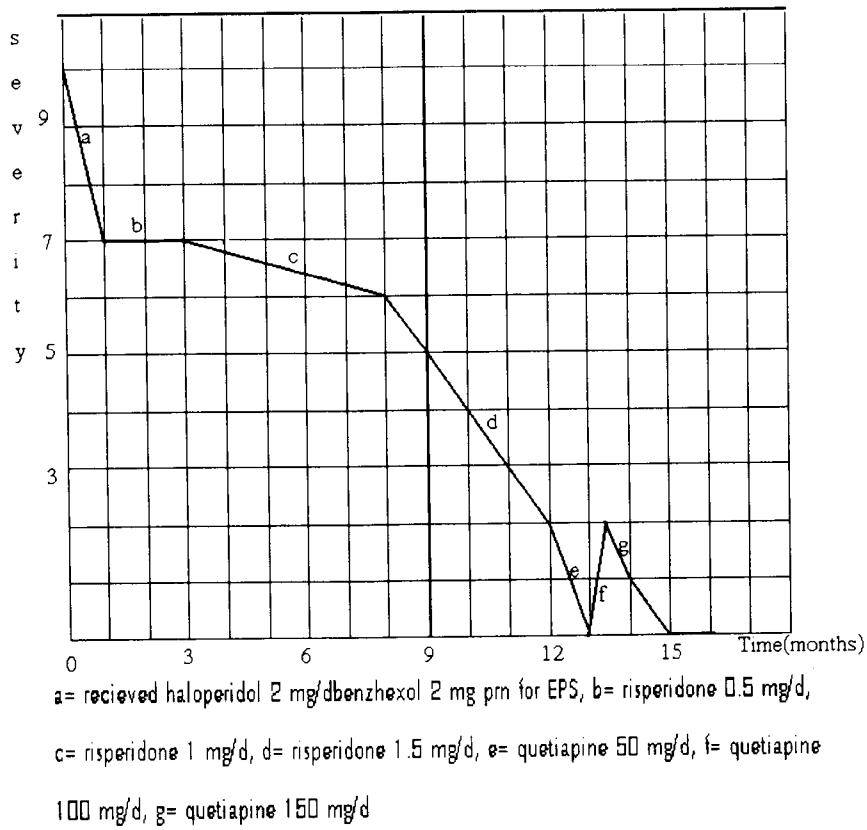

Fig. 1. Correlation between severity of symptom and time.

Because of the existing symptoms, it was agreed not to step up the dose, because of the risk of increased EPS. The patient was the given a new drug; quetiapine, an atypical antipsychotic with almost the same action as risperidone but with less EPS. Although its efficacy for tic disorder may be questionable, it was considered relevant by the receptors target of action. However, it has already been proved by many trials to have an EPS-free property. Quetiapine was started at 50 mg/d, then stepped up to 100 mg/d after two weeks. After the patient had taken quetiapine for a week, she reported being tic-free for two weeks without any EPS, for the first time in her life. However, one week later, the tic came back again at about 20 per cent of severity, similar to risperidone at 1.5 mg/d. The patient was satisfied with this, even though the symptom remained, the EPS had disappeared. (line "e", "f", "g") at the last visit, the patient reported having no tic most of the time except when she felt embarrassed or was nervous.

DISCUSSION

Although quetiapine is a new drug for tic, it has similar efficacy to risperidone and has shown promise for the treatment of tic in several open-label studies[7-9]. It was able to reduce tic from 10 to zero in the severity scale. It was shown to be superior to risperidone as it produces fewer EPS.

As far as we know, the most effective in terms of tic reduction are the potent dopamine D_2 receptor antagonist drugs i.e. haloperidol, pimozide, and risperidone[10], but they carry undesirable side effects especially EPS. Besides tic itself, EPS from the treatment drug can mimic or superimpose tic by movement disorder, this gives patients a bad impression of the medication. The newer atypical neurolep-

tics have less potential for short-term and long term side effects and may be equal or more effective than the old ones. However, systemic research, a clinical double-blinded trial, on quetiapine versus other atypical neuroleptics for the treatment of tic disorder should be conducted to prove its benefit and disadvantages before this agent can become the first line treatment for tic.

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Quetiapine ในการรักษากล้ามเนื้อเกร็งกระตุกผิดปกติ : รายงานผู้ป่วย

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กล้ามเนื้อเกร็งกระตุกผิดปกติ (tic disorder) พบราว 20% ในผู้ป่วยเด็ก และยังไม่มียาใดได้ผลดีที่สุดในการรักษา ได้มีการนำยาต้านโรคจิต เช่น haloperidol, pimozide และ risperidone มาใช้ซึ่งได้ผลดีแต่ก็มีข้อจำกัดเนื่องจากเกิดผลข้างเคียงแบบ extrapyramidal (extrapyramidal side effect–EPS) ในการศึกษานี้ใช้ quetiapine ซึ่งเป็นยาที่มีฤทธิ์คล้าย risperidone แต่ทำให้เกิด EPS น้อยมาก

วัตถุประสงค์ : เพื่อศึกษาประสิทธิภาพและผลข้างเคียงของ quetiapine ในการรักษากล้ามเนื้อเกร็งกระตุกผิดปกติ

วัสดุและวิธีการ : เป็นรายงานผู้ป่วยหนึ่งรายที่มาด้วยอาการกล้ามเนื้อเกร็งกระตุกผิดปกติ ซึ่งเดิมได้รับการรักษาด้วย haloperidol วันละ 2 ม.ก. ร่วมกับ benzhexol หลังจากนั้น ได้รับการเปลี่ยนยาเป็น risperidone ขนาด 1.5 ม.ก.ต่อวัน และ benzhexol 2–4 ม.ก.ต่อวัน เนื่องจากผู้ป่วยยังคงมี EPS อยู่ แพทย์จึงเปลี่ยนจาก risperidone เป็น quetiapine ขนาด 50 ม.ก.ต่อวัน และค่อย ๆ เพิ่มขนาดขึ้นโดยไม่ให้ benzhexol ร่วมอย่างที่ผ่านมา

ผลการศึกษา : อาการกล้ามเนื้อเกร็งกระตุกผิดปกติหายไปเมื่อได้รับยาขนาด 200 ม.ก.ต่อวัน โดยที่ไม่มี EPS เช่นยาตัวอื่น

สรุปผล : quetiapine สามารถรักษาอาการกล้ามเนื้อเกร็งกระตุกผิดปกติได้ และไม่ทำให้เกิด EPS ในผู้ป่วยรายนี้ อย่างไรก็ตามยังต้องรอการศึกษาแบบ clinical controlled trial ต่อไป

คำสำคัญ : กล้ามเนื้อเกร็งกระตุกผิดปกติ, การรักษา, Quetiapine, ยาต้านโรคจิตชนิดใหม่, กลุ่มอาการทูเรตต์

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