

Evaluation of side effect of risperidon on schizophrenic patient in Amino Gondohutomo hospital Semarang

Evaluasi efek samping risperidon pada penderita schizofrenia di rumah sakit Amino Gondohutomo Semarang

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Abstract

Schizophrenia is a psychiatric chronic disease of human being's mind which can influence someone so that it bothered the interpersonal relation and ability to have a social relationship. Antipsychotic drug can be used to overcome the symptom of schizophrenia, for example risperidone. This study was aims to evaluate the side effects of the use of risperidone on the inpatient of Dr. Amino Gondohutomo Mental Hospital Semarang for a month in the period of February 2008. This evaluation covers the side effects of medicine that occur due to the use of risperidone, concomitant administration of risperidone and other antipsychotic, drug interaction, and also executed therapy of the side effects of the risperidone. This study followed the descriptive analysis, while the data collecting was conducted prospectively. The subjects of research were represented by the entire patients of the inpatient ward of Dr. Amino Gondohutomo Mental Hospital Semarang during the period of February 2008 and fulfilled the inclusive criteria. The inclusive criteria covered the patients who were diagnosed as paranoid schizophrenia, hebephrenic schizophrenia, catatonic schizophrenia, undetailed schizophrenia and received anti-psychotic risperidone medication. Based on these criteria 31 samples were found. The result of the study indicated that the most possibility of side effects of the use of risperidone was agitation (19.51 %), with the most anti-psychotic combination of risperidone and haloperidol (45.83 %) and there were 15 interactions which could potentially cause a drug side effect.

Key words : schizophrenia, drug side effects, anti-psychotic risperidone

Abstrak

Schizophrenia merupakan penyakit psikiatrik kronik pada pikiran manusia yang dapat mempengaruhi seorang sehingga mengganggu hubungan interpersonal dan kemampuan untuk menjalani hubungan sosial. Schizophrenia cenderung berlanjut / kronis, oleh karenanya terapi obat antipsikotik (contohnya risperidon) diberikan dalam jangka waktu relatif lama, berbulan-bulan bahkan bertahun-tahun. Penelitian ini bertujuan untuk mengevaluasi efek samping penggunaan obat antipsikotik risperidon pada pasien rawat inap RSJD Dr. Amino Gondohutomo Semarang periode Februari 2008. Meliputi, efek samping obat yang terjadi, kombinasi obat antipsikotik terbanyak, interaksi risperidon dengan obat lainnya, serta penatalaksanaan efek samping risperidon. Penelitian ini mengikuti rancangan deskriptif dan pengumpulan data dilakukan secara prospektif. Subyek penelitian merupakan seluruh pasien rawat inap RSJD Dr. Amino Gondohutomo pada periode Februari 2008 yang memenuhi kriteria inklusi. Kriteria inklusi terdiri atas pasien yang mendapat diagnosis schizophrenia paranoid, schizophrenia hebefrenik, schizophrenia katatonik, dan schizophrenia tak terinci dan mendapat pengobatan obat antipsikotik risperidon.

Berdasarkan kriteria tersebut didapat sampel sebanyak 31 pasien. Hasil penelitian menunjukkan bahwa kemungkinan efek samping yang banyak terjadi akibat penggunaan risperidon adalah agitasi (19,51 %), kombinasi obat antipsikotik terbanyak adalah risperidon dan haloperidol (45,83 %) dan terdapat 15 interaksi obat yang potensial menimbulkan efek samping obat.

Kata kunci : Schizophrenia, efek samping obat, antipsikotik risperidon.

Introduction

Pharmacotherapy is the mainstay of treatment in schizophrenia and it is essentially impossible in most patients to implement effective psychosocial reha-bilitation programs in the absence of antipsychotic treatment. Because most deterioration in psychosocial functioning occurs within the first 5 years of the initial psychotic episode, treatment interventions should be particularly assertive during this period.

Pharmacotherapy algorithms of schizophrenia should emphasize monotherapies with antipsychotics of optimal efficacy, side-effect ratios and progress to medications with greater side-effect risks and to combination regimens in treatment-resistant patients.

Schizophrenia psychiatric disorder tends to be chronic, therefore, antipsychotic was given within relatively long period of time, months or even years; as if the antipsychotic drugs given were a kind of regular daily vitamin or food for the Schizophrenia patients. Therefore, if the antipsychotic drug causes side effects, the effects can be bad and worsen the condition of the patient (Hawari, 2001). Risperidone, one of the atypical antipsychotic which blocks certain serotonin and dopamine receptor, is approved for treatment of bipolar mania and schizophrenia.

This research aims to evaluate the risperidone's side effect in schizophrenia inpatient in Dr. Amino Gondohutomo Mental Hospital Semarang period of February 2008.

Methodology

This study was carried out prospectively in Dr. Amino Gondohutomo Mental Hospital Semarang for a month in the period of February 2008. All inpatients, diagnosed with paranoid schizophrenia, hebephrenic schizophrenia, catatonic schizophrenia, undetailed schizophrenia and received anti-psychotic risperidone medication, were included into the study.

Result and Discussion

Patients' characteristic

There were thirty one subjects who followed and studied. In this study there were 16 males and 15 females. According to the age, the patients were mostly ages 31-40 years, passing SLTA and diagnosed with paranoid schizophrenia. Background characteristic of the research's subjects were shown on Table I.

Evaluation of Risperidon's side effects

Possible side effects caused by risperidone

There were 31 subjects using risperidone and the side effect happened to 19 patients. The Possible side effects caused by risperidone were shown on Table II.

It was shown on Table II that the most side effect happened from using risperidone was agitation (19.51 %). Agitation is an increase in the total body movement, usually marked with stamping of feet or anxious hands, fast, rhythmic and followed by internal tension. The patient who experienced this side effect, could not sit calmly, he or she felt worried or irritable (Benhard, 2007). Risperidone could induce less abnormal body movement (agitation) compared with haloperidol (Barclay, 2005).

Table I. Background Characteristics of Inpatient with Schizophrenia of Dr. Amino Gondohutomo Mental Hospital Semarang During February 2008 Period Receiving Risperidone

No.	Variable	No of cases	%
1.	Gender		
	Male:	16	51.61
	Female:	15	48.39
2.	Age (year) :		
	<10	0	0
	10-20	6	19.35
	21-30	5	16.13
	31-40	10	32.26
	41-50	5	16.13
	51-60	4	12.90
	>60	1	3.22
3.	Education level :		
	Un educated/ not passing SD	4	12.90
	SD	6	19.35
	SLTP	7	22.38
	SLTA	12	38.71
	University	2	6.45
4.	Schizofrenic type:		
	Paranoid	16	45.71
	Hebephrenic	2	5.70
	Catatonic	7	20
	Undetailed	6	17.14

This result was different from the study of Anderson (2007), that the most adverse effect was headache and reported in 8.8 % patients receiving Risperidone, followed by somnolence (5 %) and dry mouth (5 %).

As shown in Table II, extrapyramidal as the most antipsychotic side effect rarely happened. Extrapyramidal reaction happened because of the high affinity on the inhibition of dopamine 2 receptor, and risperidone had a middle activity against dopamine 2. That's why the extrapyramidal side effect rarely happened.

Besides, as the prevention against the extrapyramidal side effect, trihexiphenidil was added as a therapy. THP was used as an anti Parkinson. Parkinsonism is a term that is used for hypokinetic rigidity syndrome with the

parkinson characteristic, caused by the abnormality on the extrapyramidal system (Tjay and Raharja, 2005).

From the study, risperidone as an atypical antipsychotic has a smaller extrapyramidal side effect compared with haloperidol as a typical antipsychotic. Melyana (2006) found that haloperidol's extrapyramidal side effect was 27.17 % and from this study it was found that risperidone's extrapyramidal side effect was only 9.76 % or happened to 4 inpatients.

Both used haloperidol on the previous therapy and for the rest, there was an interaction between risperidone and chlorpromazine, that was why the risperidone level became higher and caused

Tabel II. Side Effects Possibility of Risperidone Given to Inpatient of Dr. Amino Gondohutomo Mental Hospital Semarang During February 2008 Period

No.	Side Effects Possibility	No of cases	(%)
1.	Agitation	8	19.51
2.	Orthostatic hypotensionic	7	17.07
3.	Insomnia	7	17.07
4.	EPS	4	9.76
5.	Dizziness	3	7.31
6.	Anxiety	3	7.31
7.	Dermatitis	2	4.88
8.	Tachycardi (Σ pulse > 100/min)	2	4.88
9.	Myalgia rigidity	1	2.44
10.	Short of breath	1	2.44
11.	Leukosytosis	1	2.44
12.	Trombositopenia	1	2.44
13.	Cough	1	2.44
Total		41	100

Tabel III. Combination of Risperidone and Another Drugs Given to Inpatient of Dr. Amino Gondohutomo Mental Hospital Semarang During February 2008 Period

No.	Drug combination type	Number	Percentage (%)
1.	Risperidone – Haloperidol	11	45.83
2.	Risperidone – Chlorpromazine	8	33.33
3.	Risperidone – Clozapine	2	8.33
4.	Risperidone – Chlorpromazine - Olanzapine	1	4.17
5.	Risperidone – Chlorpromazine – Haloperidol	2	8.33
Total		24	100

Table IV. Percentage of Risperidone Interaction with Other Drugs which may Cause the Side Effect of Risperidone in the Inpatient of Dr. Amino Gondohutomo Mental Hospital Semarang During February 2008 Period

No.	Drug interaction	No of cases	(%)
1	Risperidone – Chlorpromazine	11	73.33
2	Risperidone – Clozapine	2	13.33
3	Risperidone – Fluoxetine	1	6.67
4	Risperidone – Metoclopramide	1	6.67
Total		15	100

the extrapyramidal side effect. Its the same with the study of Hunter (2007), declares that risperidone's side effect profile may be better than haloperidol.

Combination of drugs

Two or more drugs that are used at the same time, can influence each other, it shows the antagonism reaction or the synergism reaction (Tjay and Rahardja, 2005). The combination of Risperidone and another drug were shown on Table III. The most was combination of Risperidone and Haloperidol (45.83 %)

Drug interaction

In this study, a few interactions were found between risperidone and another drug, (the complete drug interaction were shown on Table IV) that potentially caused risperidone side effects, i.e :

Risperidone and chlorpromazine. Chlorpromazine is an inhibitor to enzyme CYP2D6 so it can raise the risperidone level or effect. The high risperidone concentration can cause the extrapyramidal side effect. It can be shown on case no 9, the extrapyramidal side effect happened on the sixth day of the therapy. Risperidone and clozapine, the interaction between them can make the clearance of risperidone lower and raise the amount of risperidone being accumulated in the body. The increasing amount of risperidone in the body can cause the side effect of drug such as extrapyramidal side effect.

Risperidone and fluoxetine, the same as chlorpromazine, fluoxetine is an inhibitor of CYP2D6 and can raise the risperidone level or effect. Thus, to minimise the side effect and the risperidone toxicity, the risperidone dose should be reduced.

Risperidone and metoclopramide, the concomitant use can cause the patients to be more likely to experience akathisia and other extrapyramidal side effects.

Management of Risperidone side effect

The study found that the most risperidone side effect was agitation. In this study, the management of agitation as risperidone side effect wasn't of pharmacological therapy, but more of psychosocial therapy and continued with psychoeducational therapy. Psychosocial treatment could be done, because risperidone-treated patients appeared to feel subjectively better, as indicated by less anxiety and depression and fewer extrapyramidal side effects (Barclay, 2003).

Conclusion

The most common side effect of risperidone was agitation (19.51 %) and the management for agitation was psychosocial. The most common antipsychotic combination was risperidone and haloperidol (45.83 %). Drug interaction between risperidone and chlorpromazine is the highest (73.33 %).

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