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Haloperidol and visual disturbances

Introduction

Haloperidol (Haldol[®]) is a butyrophenone derivate, approved in the Netherlands *for the treatment of psychosis, mania, symptomatic treatment of severe forms of agitation and anxiety, tics and choreatic movements and short-term treatment of nausea and vomiting in case other drugs are not effective or are contra-indicated*. For adults the initial dosage is 2-10 mg daily depending on the severity of the symptoms [1]. Haloperidol directly stimulates alpha-adrenergic receptors, while exerting minimal to no effect on beta-adrenergic receptors. Until December 31 2003, the Netherlands Pharmacovigilance Centre Lareb received four reports of visual disturbances associated with the use of haloperidol. The SPC, does not mention vision disorders as a possible ADR.

Reports

Details concerning reports on haloperidol and visual disturbances are shown in table 1.

Table 1. reports of visual disturbances and haloperidol

Patient; Sex; age	Daily dosage ; Indication	Concomitant medication	Suspected adverse drug reaction	Time to onset; Outcome; remarks
A, F,38	10 mg; psychosis	biperidene, oxazepam, lormetazepam	vision abnormal	unknown; recovered; Adverse drug reaction dose dependend
B, M,87	0,5 mg; restless legs	diazepam, fluticason inhalator, salmeterol inhalator	unable to read (accommodation abnormal?)	1.5 week; recovered
C, F,47	1mg; manic psychosis	lithium, carbamazepine, salbutamol, thyroxin	vision decreased	not specified
D, F,48	1 mg; depression	trazodone, calcium carbonate, estrogen replacement therapy, diazepam	vision blurred	not specified, at time of notification not yet recovered

Other sources of information

Literature

The use of haloperidol has been associated with several ocular effects, like decreased vision, decreased accommodation, and mydriasis (which may precipitate narrow-angle glaucoma) [2,3]. Blurred vision associated with the use of haloperidol was reported to have occurred in 10-20% of 321 patients with Gilles de la Tourette's syndrome who were treated with varying dosages [3]. However, details about this study have not been specified in the quoted article. Five out of 26 patients treated with haloperidol reported blurred vision in comparison with 2 out of 25 patients who used a placebo in a 12 week double blind study in patients hospitalized with acute schizophrenia or acute exacerbation of chronic schizophrenia[4]. Fraunfelder *et al.*, mentioned that the vision disorders upon use of butyrophenone derivatives are often transient and reversible. Next to the occurrence of mydriasis and disturbances in accommodation, these drugs have been associated with the onset of capsular cataract. The reports of the Netherlands Pharmacovigilance Centre do not suggest cataract as a possible cause of the visual disturbances.

Databases

On December 31, 2003, the database of the Netherlands Pharmacovigilance Centre contained 53 reports on haloperidol, including the above mentioned four reports concerning visual disturbances. On September 30, 2003, the database of the WHO Monitoring Centre contained a

total number of 9107 reports on haloperidol. 10 reports concerned abnormal accommodation, 16 reports mydriasis. These associations were disproportionally present in the WHO database (reporting odds ratio 1.88, 95% CI 1.01-3.49 and 1.70 95% CI 1.04-2.78 respectively).

Mechanism

The occurrence of accommodation problems (and the mydriasis) is probably caused by the anti-cholinergic effect of haloperidol, causing a constriction of the radial muscles of the iris. Two out of four patients are in the end 40's, an age in which presbyopia may become manifest and the ability to accommodate decreases, which can be considered as an additional risk factor.

Conclusion

Reports received by the Netherlands Pharmacovigilance Centre as well as data from literature suggest that haloperidol may cause visual disturbances by its anticholinergic activities.

References

1. Dutch Summary of Product Characteristics of Haldol (version date 11-04-2000). <http://www.cbg-meb.nl/IB-teksten>.
2. Fraunfelder FT; Fraunfelder FW. Drug Induced Ocular Side Effects. 15 ed. Butterworth-Heinemann; 2001. p151.
3. Shapiro AK. More on drug-induced blurred vision. *AmJ Psychiatry* 1977;134(12):1449.
4. Selman FB, McClure RF, Helwig H. Loxapine succinate: a double-blind comparison with haloperidol and placebo in acute schizophrenics. *Curr Ther Res Clin Exp.* 1976;19(6):645-52.

