

Lamotrigine and alopecia

Introduction

Lamotrigine (Lamictal[®]) is indicated for *the treatment of partial epilepsy, with or without generalization and primary generalized epilepsy* in children and adults above 12 years. In addition, at the age of 2-12 years, the drug is also indicated as *adjunctive therapy for the treatment of refractory partial epilepsy*. Lamotrigine is also indicated in adults and children from 2 years for *the treatment of the syndrome of Lennox-Gastaut as adjunctive therapy when other anticonvulsants do not work properly* [1].

Reports

Until 29 March 2007, the Netherlands Pharmacovigilance Centre Lareb received 11 reports of alopecia associated with the use of lamotrigine. The time to onset varies from one week to 4.5 months. In all of the reports, it is not known if the patients recovered. The patients also used concomitant medication that could be held responsible for alopecia, but all these reports had lamotrigine as suspect medication because this was the last drug started.

Table 1. Reports of alopecia associated with the use of lamotrigine

Patient, Sex, age	Daily dose Indication for use	Concomitant medication	Time to onset, outcome at the time of notification
A F, 34	lamotrigine 25 mg epilepsy	carbamazepine	18 days, drug continued, not recovered
B F, 22	lamotrigine 50 mg epilepsy	azetazolamide, oestrogen/progestagen	a few weeks, not recovered
C F, 61	lamotrigine 400 mg trigeminal neuralgia	none	3 months, outcome unknown
D F, 15	lamotrigine 100 mg epilepsy	clobazam	drug continued, not recovered
E F, 32	lamotrigine 25 mg od epilepsy	valproic acid	1 week, drug withdrawn, not recovered
F F, 55	lamotrigine 100 mg td epilepsy	none	4.5 months, drug continued, outcome unknown
G F, 61	lamotrigine 225 mg	lithium, oxazepam, desloratadine	15 months, outcome unknown
H F, 8	lamotrigine 10 mg td	fenobarbital, enalapril, ferrofumarate, digoxin, omeprazol, loperamide	2 weeks, dose increased, outcome unknown
I F, 33	lamotrigine 50 mg td	none	drug continued, not recovered
J M, 18	lamotrigine 100 mg od epilepsy	none	3 month, drug continued, not recovered
K M, 14	lamotrigine 150 mg td	pregabalin, clobazam	drug continued, outcome unknown

Other sources of information

SPC

Alopecia in association with lamotrigine has not been described in the Dutch SPC, but alopecia has been described in the German SPC as an ADR that had occurred in clinical studies [2]. In the American SPC, alopecia has also been described as an infrequent adverse drug reaction [3]. (Transient) alopecia has been described in the Dutch SPC's of valproic acid and carbamazepine [4,5].

Literature

In a case report, a 63-year old woman was described who was treated with lamotrigine. The dose was later increased up to 150 mg daily. As concomitant drugs, she used artificial tears. Two to three weeks after the start of lamotrigine, an increase of hair loss was noticed. Hemogram and other laboratory parameters did not show pathological findings. A trichogram showed an increase of telogen and dystrophic hair at the expense of anagen hair. The hair loss was mainly located in the area of the temporal bone. After withdrawal of the drug, a rapid regression of hair loss was found [6].

Another case report presents a 24-year old woman suffering from alopecia while using lamotrigine. Two years earlier, in 1996, the patient was treated with valproate, ethosuccimide and carbamazepine without dermatological problems. Later that year, lamotrigine was started with unknown dose and carbamazepine was stopped. In 1997, the doses of valproate and ethosuccimide were decreased until ethosuccimide was stopped after a year. Lamotrigine was increased to 100 mg/day. Alopecia developed a few months later. Androgenetic alopecia was excluded on the basis of a trichogram and clinical presentation. A diagnosis of drug-induced telogen effluvium was made. Lamotrigine was continued because of effective treatment and the patient is still suffering from moderate baldness. Though both valproic acid and lamotrigine were used, the authors attribute alopecia to lamotrigine because of the time relationship and previous uncomplicated use of valproic acid for about 13 years in much higher doses [7].

Databases

On 29 March 2007 the Lareb database contained 11 reports on lamotrigine and alopecia. In respect to the other reports in the database this association is disproportionally reported (ROR 2.9, 95% CI 1.7- 5.6).

On 29 March 2007, the WHO Collaborating Centre had received 107 reports of lamotrigine and alopecia. This association is disproportionally reported (ROR 2.8, 95% CI 2.3- 3.4).

Prescription data

The number of patients using lamotrigine increased to 15,820 patients in 2005. Data of 2006 are not yet available.

Table 2. Total number of patients using lamotrigine per year (Source: GIP College voor Zorgverzekeringen, Diemen)

	2001	2002	2003	2004	2005
N03AX09 Lamotrigine (Lamictal [®])	10,119	11,316	12,665	14,322	15,820

An analysis of the Marketing Authorisation Holder showed no relation between lamotrigine and alopecia (e-mail contact MAH oktober 2007)

Conclusion

Lareb received 11 reports of alopecia in association with lamotrigine. This association is supported by the disproportionately high number of reports in the WHO database. Two case reports in literature suggest alopecia with the use of lamotrigine. Alopecia has also been described in the German and American SPC of lamotrigine.

References

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4. Dutch SPC's Depakine[®] and Tegretol[®]. (version date 2006) <http://www.cbg-meb.nl/nl/prodinfo/index.htm>.
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