

Andreas Erfurth  
Benedikt Amann  
Heinz Grunze

Department of Psychiatry,  
University of Munich, Germany

## Female Genital Disorder as Adverse Symptom of Lamotrigine Treatment

### A Serotonergic Effect?

#### Key Words

Lamotrigine  
Female genital disorder  
Bipolar disorder  
Bipolar depression  
Serotonin  
Selective serotonin reuptake  
inhibitors

#### Abstract

The new anticonvulsant, lamotrigine, is becoming an important tool in the treatment of bipolar disorder, including bipolar depression. Its efficacy in bipolar depression might be linked to its inhibition of serotonin uptake. We present the case of a female schizoaffective patient successfully treated with 400 mg of lamotrigine developing considerable genital disorder, a side effect well known from the treatment with selective serotonin reuptake inhibitors (SSRIs). We suggest that female genital disorder induced by high doses of lamotrigine is a serotonergic side effect.

Lamotrigine is a novel anticonvulsant known to block sodium channels leading to a decrease of presynaptic glutamate release [1] and influencing calcium channels [2]. Recently, Southam et al. [3] have shown that in preparations of rat or human tissue lamotrigine inhibits serotonin uptake. This possible SSRI-like mechanism might explain lamotrigine's efficacy in the treatment of bipolar depression [4–6].

#### Case Report

The 37-year-old patient was admitted to our department in 6/97 with a severe schizomanic episode. Since age 18 she was hospitalised at least 40 times in different psychiatric hospitals because of a schizoaffective disorder with rapid cycling. Lamotrigine was started in 7/97 and was initially well tolerated. A severe depression developed despite 200 mg of Lamictal® monotherapy with a serum concentration of 2.4 mg/l. When in 1/98 lamotrigine was increased to a serum concentration of 5.1 mg/ml (400 mg Lamictal®) the schizomanic episode to which the patient had meanwhile switched was successfully ameliorated and the patient was dismissed. Unfortunately, at this dosage a considerable genital disorder developed, the patient did not only describe an extinction of her libido, she also described that touching of

genitals and erogenous zones was most unpleasant. (This side effect was completely new to the patient, during previous depressions she was always able to enjoy sexual intercourse.) Until the end of 3/98 the dosage remained unchanged with no change of the reported adverse effect.

#### Discussion

Our case suggests that lamotrigine is capable of inducing female genital disorder. In our case this phenomenon seems to be related to the increase of dosage from 200 to 400 mg/day. Within 10 weeks of continued medication with 400 mg/day no reduction of this side effect was observed. Female genital disorder – as well as abnormal ejaculation in men – can be a typical side effect of SSRIs, e.g. in a double-blind, placebo-controlled study of paroxetine in the treatment of panic disorder [7] 13 of 136 women receiving paroxetine (10–40 mg) reported genital disorder (with 0/47 in the placebo group). We suggest that lamotrigine's serotonergic component that might be desirable in the treatment of bipolar depression can also lead to female genital disorder, a SSRI-typical adverse effect.

**KARGER**

Fax +41 61 306 12 34  
E-Mail [karger@karger.ch](mailto:karger@karger.ch)  
[www.karger.com](http://www.karger.com)

©1998 S. Karger AG, Basel  
0302-242X/98/0383-0200\$15.00/0

Accessible online at:  
<http://BioMedNet.com/karger>

Dr. Andreas Erfurth  
Department of Psychiatry, University of Münster  
Albert-Schweitzer-Strasse 11, D-48129 Münster (Germany)  
Tel. +49 251 8356638, Fax +49 251 8356612, E-Mail [erfurth@uni-muenster.de](mailto:erfurth@uni-muenster.de)

---

## References

- 1 Leach MJ, Marden CM, Miller AA: Pharmacological studies on lamotrigine, a novel potential antiepileptic drug. II. Neurochemical studies on the mechanism of action. *Epilepsia* 1986;27:490–497.
- 2 Lees G, Leach MJ: Studies on the mechanism of action of the novel anticonvulsant lamotrigine (Lamictal) using primary neurological cultures from rat cortex. *Brain Res* 1993;612:190–199.
- 3 Southam E, Kirkby D, Pratt GD, Higgins G, Hagan RM: Lamotrigine inhibits 5-HT uptake in vitro and modulates the pca-induced 5-HT syndrome in rats. *Soc Neurosci Abstr* 1997;23:1661.
- 4 Calabrese JR, Fatemi SH, Woyshville MJ: Antidepressant effects of lamotrigine in rapid cycling bipolar disorder. *Am J Psychiatry* 1996;153:1236.
- 5 Kusumakar V, Yatham LN: An open study of lamotrigine in refractory bipolar depression. *Psychiatry Res* 1997;72:145–148.
- 6 Yatham LN, Kusumakar V, Parikh SV, Haslam DR, Matte R, Sharma V, Kennedy S: Bipolar depression: Treatment options. *Can J Psychiatry* 1997;42(suppl 2):87S–91S.
- 7 Ballenger JC, Wheadon DE, Steiner M, Bushnell W, Gergel IP: Double-blind, fixed-dose, placebo-controlled study of paroxetine in the treatment of panic disorder. *Am J Psychiatry* 1998;155:36–42.