

2 November 2023

Topiramate <and topiramate/phentermine combination: New restrictions to prevent exposure during pregnancy

Dear healthcare professional,

This letter is sent in agreement with the European Medicines Agency (EMA) and {National Competent Authority} to inform you of the implementation of a **pregnancy prevention programme for topiramate-containing medicinal products.**

Summary

- **Topiramate can cause major congenital malformations and foetal growth restriction when used during pregnancy. Recent data also suggest a possibly increased risk of neurodevelopmental disorders (NDD) including autism spectrum disorders, intellectual disability and attention deficit hyperactivity disorder (ADHD) following topiramate use during pregnancy.**
- **<For topiramate monocomponent products># New contraindications apply for the treatment of epilepsy:**
 - **in pregnancy, unless there is no suitable alternative treatment;**
 - **in women of childbearing potential not using highly effective contraception. The only exception is a woman for whom there is no suitable alternative but who plans a pregnancy and who is fully informed about the risks of taking topiramate during pregnancy.**
- **Topiramate <monocomponent products> for prophylaxis of migraine <and topiramate/phentermine combination products for weight management is/are> already contraindicated in pregnancy and in women of childbearing potential not using highly effective contraception.**
- **Treatment of female children* and women of childbearing potential should be initiated and supervised by a physician experienced in the management of epilepsy or migraine <or weight management for the combination product>. The need for treatment should be reassessed at least annually.**
- **Due to a potential interaction, women using systemic hormonal contraceptives should be advised to also use a barrier method.**
- **For women of childbearing potential currently using topiramate <or topiramate/phentermine>, the treatment should be re-evaluated to confirm that the pregnancy prevention programme is adhered to.**

{*Sentence needs to be adjusted at national level, as migraine prophylaxis is only approved for adults in some MS and for patients older than 12 years of age in others.} {#The specification "monocomponent products" should only be inserted throughout the document if the combination product is also authorised, to emphasise which parts belong to which products. If only the monocomponent is authorised, the addition of "monocomponent products" to Topiramate is not needed.}

Background on the safety concern

Topiramate <monocomponent products is/are> indicated as:

- Monotherapy in adults, adolescents and children over 6 years of age with partial seizures with or without secondary generalised seizures, and primary generalised tonic-clonic seizures.
- Adjunctive therapy in children aged 2 years and above, adolescents and adults with partial onset seizures with or without secondary generalisation or primary generalised tonic-clonic seizures and for the treatment of seizures associated with Lennox-Gastaut syndrome.
- Prophylaxis of migraine headache {in adults/in patients 12 years of age and older} after careful evaluation of possible alternative treatment options. Topiramate is not intended for acute treatment.

<Topiramate/phentermine combination products are indicated as:

- an adjunct to reduced calorie diet and physical activity for obese patients ($BMI \geq 30 \text{ kg/m}^2$), or overweight patients ($BMI \geq 27 \text{ kg/m}^2$) with weight-related co-morbidities such as hypertension, type 2 diabetes or dyslipidaemia.>

Data from two observational population-based registry studies (1, 2) undertaken in largely the same dataset from the Nordic countries suggest that there may be a 2- to 3-fold higher prevalence of autism spectrum disorders, intellectual disability or attention deficit hyperactivity disorder (ADHD) in almost 300 children of mothers with epilepsy exposed to topiramate in utero, compared with children of mothers with epilepsy not exposed to an anti-epileptic drug (AED).

A third observational cohort study (3) from the U.S.A. did not suggest an increased cumulative incidence of these outcomes by 8 years of age in approximately 1000 children of mothers with epilepsy exposed to topiramate in utero, compared with children of mothers with epilepsy not exposed to an AED.

It is already well known that topiramate can cause major congenital malformations and foetal growth restriction when used during pregnancy:

- Infants exposed to topiramate monotherapy in utero have an approximately 3-fold increased risk of major congenital malformations including cleft lip/palate, hypospadias and anomalies involving various body systems compared with a reference group not exposed to antiepileptic drugs. Absolute risks of major congenital malformations following topiramate exposure have been reported in the range of 4.3% (1.4% in the reference group) to 9.5% (3% in the reference group) (4).
- Data from pregnancy registries indicated a higher prevalence of low birth weight (< 2,500 grams) and of being small for gestational age (SGA; defined as birth weight below the 10th percentile corrected for their gestational age, stratified by sex) for topiramate monotherapy. In the North American Antiepileptic Drug Pregnancy Registry, the risk of SGA in children of women receiving topiramate was 18%, compared with 5% in children of women without epilepsy not receiving an AED (5).

For women of childbearing potential currently using topiramate <or topiramate/phentermine>, the treatment should be re-evaluated to confirm that the pregnancy prevention programme is adhered to (described below).

Key elements of the pregnancy prevention programme

In female children and women of childbearing potential:

- Treatment with topiramate <or topiramate/phentermine> should be initiated and supervised by a physician experienced in the management of epilepsy or migraine <or weight management, respectively>.
- Alternative therapeutic options should be considered.
- The need for topiramate treatment in these populations should be reassessed at least annually.

In women of childbearing potential:

- Topiramate for migraine prophylaxis<and topiramate/phentermine for weight management is/are> contraindicated:
 - in pregnancy,
 - in women of childbearing potential not using highly effective contraception.
- Topiramate for epilepsy is contraindicated:
 - in pregnancy, unless there is no suitable alternative treatment,
 - in women of childbearing potential not using highly effective contraception. The only exception is a woman for whom there is no suitable alternative but who plans a pregnancy and who is fully informed about the risks of taking topiramate during pregnancy.
- Pregnancy testing should be performed before initiating treatment.
- The patient must be fully informed and understand the potential risks related to the use of topiramate during pregnancy. This includes the need for a specialist consultation if the woman is planning a pregnancy and for prompt contact with a specialist if she becomes pregnant or thinks she may be pregnant.
- At least one highly effective method of contraception (such as an intrauterine device) or two complementary forms of contraception including a barrier method should be used during treatment and for at least 4 weeks after stopping treatment. Women using systemic hormonal contraceptives should be advised to also use a barrier method.
- If a woman is planning to become pregnant, efforts should be made to switch to an appropriate alternative <epilepsy or migraine> treatment before contraception is discontinued<, treatment with topiramate/phentermine}>. For the treatment of epilepsy, the woman must also be informed about the risks of uncontrolled epilepsy to the pregnancy.
- If a woman being treated with topiramate for epilepsy becomes pregnant, she should promptly be referred to specialists to reassess topiramate treatment and consider alternative treatment options, as well as for careful antenatal monitoring and counselling.
- If a woman being treated with topiramate as migraine prophylaxis <and topiramate/phentermine for weight management> becomes pregnant, treatment should be stopped immediately. The woman should be referred to a specialist for careful antenatal monitoring and counselling.

In female children (for epilepsy <and migraine> only):

- Prescribers must ensure that parent(s)/caregiver(s) of female children using topiramate understand the need to contact a specialist once the child experiences menarche.

- At that time, the patient and parent(s)/caregiver(s) should be provided with comprehensive information about the risks due to topiramate exposure in utero, and the need for using highly effective contraception.

Educational material

In order to assist healthcare professionals and patients in avoiding exposure to topiramate during pregnancy and to provide information about the risks of taking topiramate during pregnancy, educational materials will be put in place including:

- a guide for healthcare professionals involved in the care of female children and women of childbearing potential using topiramate <or topiramate/phentermine> including a risk awareness form, which must be used {and signed} at the time of treatment initiation and during each annual review of topiramate treatment by the treating physician,
- a patient guide which should be provided to all female children or their parent(s)/caregiver(s) and women of childbearing potential using topiramate <or topiramate/phentermine>,
- a patient card (included in or attached to the outer package), so that it will be provided to the patient each time the medicine is dispensed.

A textual warning <and a pictogram> on the teratogenic risk will be added to the outer package of all topiramate<-and topiramate/phentermine>-containing medicinal products.

Call for reporting

Any suspected adverse events should be reported to {Insert details of the national spontaneous reporting system e.g. name, postal address, fax number, website}.

Company contact point

{Contact point details for access to further information, including relevant website address(es), telephone numbers and a postal address}.

References

- ¹**Björk** M, Zoega H, Leinonen MK, et al. Association of Prenatal Exposure to Antiseizure Medication With Risk of Autism and Intellectual Disability. *JAMA Neurol*. Published online May 31, 2022. doi:10.1001/jamaneurol.2022.1269.
- ²**Dreier** JW, Björk M, Alvestad S, et al. Prenatal Exposure to Antiseizure Medication and Incidence of Childhood- and Adolescence-Onset Psychiatric Disorders. *JAMA Neurol*. Published online April 17, 2023. doi: 10.1001/jamaneurol.2023.0674. Online ahead of print. PMID: 37067807.
- ³**Hernandez-Diaz** S, Straub L, Bateman B, et al. Topiramate During Pregnancy and the Risk of Neurodevelopmental Disorders in Children. (2022), In: ABSTRACTS of ICPE 2022, the 38th International Conference on Pharmacoepidemiology and Therapeutic Risk Management (ICPE), Copenhagen, Denmark, 26–28 August, 2022. *Pharmacoepidemiol Drug Saf*, 2022; 31 Suppl 2:3-678, abstract 47.
- ⁴**Cohen** JM, Alvestad S, Cesta CE, et al. Comparative Safety of Antiseizure Medication Monotherapy for Major Malformations. *Ann Neurol*. 2023; 93(3):551-562.
- ⁵**Hernandez-Diaz** S, McElrath TF, Pennell PB et al. Fetal Growth and Premature Delivery in Pregnant Women on Anti-epileptic Drugs. North American Antiepileptic Drug Pregnancy Registry. *Ann Neurol*. 2017 Sept;82 (3):457-465. doi:10.1002/ana.25031. PMI:28856694.