



Special article

Endocrinologic diseases management during breastfeeding[☆]



Tratamiento de enfermedades endocrinológicas durante la lactancia

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Frequently, health care professionals have to treat endocrinological diseases in women during the breastfeeding period. There are many scientific spaces dedicated to the treatment of endocrinological diseases during pregnancy, in publications, seminars and congresses. However, there are not many reviews on the treatment of these diseases during the breastfeeding period. Sometimes, endocrinologists have little information on the subject, or search for information with special interest in sources that cannot be easily accessed, or scattered sources. It is not uncommon for endocrinologists to decide to suspend breastfeeding (BF) if they have doubts. Although these approaches vary according to the training of the professional, let us use Canada case as an example, where 44% of endocrinologists recommended suspending BF when treatment with antithyroid medication must be provided to a woman during breastfeeding.¹

To obtain a proper answer, it is necessary to ask the right question. The immediate answer to the question “does this child need to take a certain amount of a certain drug?” is *no*. However, if we take into consideration all the aspects of a decision, the right question is: are the risks of taking milk from his mother with a certain amount of a certain drug more serious and frequent for this child than those of artificial feeding? What are the risks of giving up breastfeeding for this woman? In order to answer these questions, we must know the risks of artificial feeding and compare them with those of BF with a certain amount of the drug,

as well as the risks of breastfeeding or giving up breastfeeding for a woman with a certain endocrinopathy. The purpose of this article is to provide information on those aspects.

Numerous research works document the advantages of BF for mothers, children, the family and society.² That includes health, nutritional, immunological, psychological, social, economical and environmental benefits in the short, medium and long term.³ The advantages of BF are present both in poor and technologically advanced countries.⁴ Favouring a high rate of breastfeeding also implies large savings of health care resources.⁵

The World Health Organization and the Spanish Paediatric Association recommend exclusive BF until 6 months of age, and to continue BF, along with other foods, until the baby is at least 2 years old, with no maximum time, but as long as the mother and child want to continue.⁶

Prolactinoma

An effective treatment of hyperprolactinaemia restores fertility, and it is therefore of special interest for the management of prolactinoma during pregnancy and breastfeeding.

The probability of growth of microprolactinomas during pregnancy is very low, and 1.6–2.4% of patients show symptoms related to tumour growth (headache), although in some others (4.5%), an asymptomatic growth may be proved through imaging tests.⁷ For this reason, and given the potential teratogenicity of the drugs, we recommend suspending treatment with dopaminergic agents once the pregnancy is confirmed. The proper treatment if there are symptoms of tumour growth is bromocriptine. We do not recommend carrying out imaging or ophthalmologic tests in all cases, but only if the patient mentions symptoms evidencing tumour growth.⁸

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As regards macroprolactinomas, 37% of cases present symptoms of tumour growth (headache, in general, and only in some cases, visual changes), and an additional 17% may present asymptomatic tumour growth, which can be proved through imaging tests. 34% of patients may experience a reduction of the tumour.⁹ Treatment with bromocriptine during the 12 months prior to the pregnancy greatly reduces the possibility of tumour growth, as well as having had previous pituitary surgery or radiotherapy.^{8,10} In most cases, the symptoms of growth are resolved with bromocriptine treatment, although in some cases, pituitary surgery is necessary. We recommend close clinical surveillance during pregnancy and performing imaging and visual tests if there were any symptoms of tumour growth, which, if confirmed, may be treated with bromocriptine, reserving surgery for cases not responding to this treatment. For certain tumour locations, it may be advisable to use bromocriptine without interruptions, since the beginning of the pregnancy, without waiting for symptoms of further tumour growth.¹⁰

After the pregnancy, there is frequently a decrease of prolactin levels (PRL), in relation to concentrations prior to the pregnancy, with normalisation at 60% of microprolactinomas and at 72% of macroprolactinomas.¹¹ In an additional 11%, the tumour is healed (normalisation of prolactin and restored menstruation). The reduction or disappearance of the tumour occurs in 27–35% of cases.⁷

PRL measurement is not useful for a follow-up of microprolactinoma or macroprolactinoma during pregnancy or breastfeeding.^{8,12}

BF was a concern in relation to potential tumour growth, because suction stimulates prolactin release. However, there is no evidence that BF poses a risk of tumour growth,¹³ probably because the doubtful effect of suction over tumour cells is non-existent and is lower than the effect of the oestrogen stimulus received during pregnancy, and because of the protection offered by hypoestrogenemia inherent to BF. BF does not increase the recurrence of hyperprolactinaemia, which is normalised in 68% of patients with prolactinomas (microprolactinomas and macroprolactinomas) or functional hyperprolactinaemia after pregnancy.¹⁴ Therefore, breastfeeding must be advised in all cases of prolactinoma. No differences have been observed either in prolactin concentrations after breastfeeding based on the duration of breastfeeding. In cases with complications during pregnancy, there must be a strict follow-up, but with no contraindication of breastfeeding initially. If there is compression of the optic chiasm or other adjacent structures, initiating treatment with a dopaminergic agonist will be recommended, and the side effect will be suppression of BF. The current consensus, according to the *Pituitary Society* guidelines for the diagnosis and treatment of prolactinomas, is that neither microprolactinomas nor macroprolactinomas with no compromise of space are an absolute or relative contraindication for BF.¹⁵ Treatment with dopamine agonists shall not be started until the end of BF. It is not adequate to advise the mother to stop breastfeeding before the rest of women, that is to say, BF until at least 2 years old, with no maximum. Meanwhile, a clinical follow-up will be performed, and if there is any suspicion of tumour growth, imaging tests shall be performed to confirm.

Diabetes mellitus

The known benefits of breastfeeding are of special interest in children of women with diabetes mellitus (DM), both type 1 and 2 (DM 2), because a reduction on the incidence of these diseases in susceptible patients has been reported.^{16–19} The longer duration of BF also protects mothers with gestational diabetes from DM 2: BF is associated with a marked delay in the onset of DM 2²⁰ and a notable minor incidence of said disease.²¹ The screening for DM

2 in women who have had gestational diabetes is recommended from week 6 to 12 after delivery.²² It is not advisable to suppress BF to perform the test, which has been the standard practice so far and is prejudicial to women, because it deprives women from an important factor of protection against the development of DM 2.

BF allows the mother to enjoy an option of health, such as breastfeeding, in the context of the overload caused by chronic diseases. Diabetic women have the capacity to breastfeed their children, like the rest of women. The *American Diabetes Association* recommends encouraging diabetic women to breastfeed.²³

Considerations for the treatment of diabetes during breastfeeding

The frequency of complications in the delivery for diabetic women increases when the diabetes is not properly controlled. But even in well controlled patients, an excess of medical intervention leads to an increase in complications. A large number of diabetic women, regardless of their degree of metabolic control and the status of the foetus, have induced deliveries, which is associated with a higher rate of instrumented deliveries and caesarean sections. Frequently, the new-born is separated from the mother and admitted into the neonatal unit, many times for observation only. Very often, the new-born receives dextrose solution or artificial formula to avoid potential hypoglycaemia (the incidence of which is increased in children of diabetic women, especially if they did not have a proper metabolic control), therefore omitting the first step of prevention, which is frequent breastfeeding and skin-to-skin contact with the mother.²⁴ All of that leads to a delay of the first contact with the breast, which is the most important factor for successful breastfeeding, also for diabetic women.²⁵ In conclusion, diabetic mothers have more obstacles in the beginning of breastfeeding than non-diabetic mothers, and their breastfeeding may be easier if the circumstances benefiting the success of BF for any mother–child are ensured. Diabetes itself is not an obstacle to BF, and the factors associated with failure of same are the same than those for non-diabetic women.²⁶ Together with the general information on breastfeeding that the mother should receive during the pregnancy, it may be useful to add information regarding breastfeeding in the event of caesarean section and separation of the new-born. Providing the additional support that diabetic mothers may require is associated to a higher rate of successful breastfeeding.²⁷

The excretion of lactose in urine (lactosuria) is a fact at the end of the pregnancy and the first days of the puerperium, until the child takes a good amount of milk, and also when the production of milk exceeds what the child takes. It may lead to a diagnosis error in diabetic women, because it can be detected as glucose in urine²⁸ when reagent strips are used.

Insulin needs decrease in relation to those prior to pregnancy,²⁹ and it is therefore important to pay attention to capillary blood sugar levels monitoring, adjust the insulin dose and make adjustments in the diet. It is practical to advise the mother to have a snack available to eat when she notices symptoms of hypoglycaemia, which are more frequent during breastfeeding and shortly after.

Breastfeeding diabetic mothers must take into consideration the increase in the requirement of nutrients, just like any other breastfeeding women. The distribution of food during the day is important, to anticipate potential hypoglycaemia during the child's feeding, or shortly after, which also requires adjustments in the insulin dose. The beginning of supplementary feeding and delactation require new adjustments in the diet and insulin, which must be made individually.

Lactogenesis and the let-down reflex may be delayed due to independent factors to the delay in the first contact with the breast and less frequent suction.³⁰

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