

A CASE OF BREASTFEEDING ANAPHYLAXIS

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A 31 year old woman developed a general skin rash, upper airway angioedema, wheezing, hypotension and loss of consciousness during the first breastfeeding, 72 hours after the delivery of her first child on October 1999 in Pordenone city Hospital. Treated immediately with epinephrine and hydrocortisone, the systemic symptoms disappeared. During the following days, the patient continued the treatment with oral doses of betametasone and diphenhydramine, since skin rash and angioedema of the eyes and lips persisted, becoming more accentuated after each breastfeeding episode or mechanical milk extraction in spite of the therapy. Twelve days after the delivery, mother and child were discharged with a prescription of 10 mg/day of cetirizine. Skin rashes and occasional episodes of angioedema to the lips kept appearing throughout all of the breastfeeding period, diminishing in intensity and finally disappearing completely when breastfeeding ended.

The woman's medication history before the symptoms started included only epidural bupivacaine intrapartum and methylergonovine maleate. The allergy evaluation, the prick test, the IgE dosage (specific for inhaled, food and latex allergens), the intradermal tests for local and general anesthetics, the serum tryptase level, measured four weeks after the anaphylactic episode, and the dosage of CI esterase inhibitor all were negative.

The patient remained symptom-free for 6 years until the birth of a second child on January 2006. A new anaphylactic episode appeared 72 hours after natural childbirth, without the use of medications and during breastfeeding. A second episode took place 24 hours later, always during breastfeeding. The lactation was suppressed and the episodes resolved.

The final diagnosis: breastfeeding anaphylaxis. Breastfeeding anaphylaxis seems to be a very rare condition, with only 2 cases being previously reported (1, 2). In both cases the symptoms appeared within the first 48 hours of breastfeeding and there was always a time correlation between breastfeeding and their appearance.

The difference between those cases and the one described above is that the other two patients had used non steroidal anti-inflammatory drugs (NSAID), in particular aspirin, paracetamol and ibuprofen before their first reaction episode. It has been hypothesized that the role of the NSAIDs could have been an important contributor in the development of the reaction, which subsequently progressed independently from the administration of the drugs. In the case we reported, no such drugs were administered, and other possibilities of anaphylactic allergic/extracellular allergic reactions were excluded. The cause of such reaction remains unknown, but the most credible hypothesis speculates on the connection between hormonal changes and neurological mechanisms connected to the post partum and breastfeeding. Recent studies proved that during the second half of pregnancy there is an increase of the mast cell number and of their histamine content in the mammary gland and in the uterus. The stabilizing effect on the mast cells membrane by progesterone has also been shown, while the estrogens can increase the mast cells degranulation and histamine release (3). The abrupt progesterone withdrawal at the time of delivery may consequently facilitate the mechanisms that would cause the release of histamine. In addition, suckling is a potent stimulus for the secretion of oxytocin, prolactin and adenocorticotropin (ACTH), and the ACTH response has been shown to involve the corticotropin release hormone (CRH) (4). Recent findings have also demonstrated that CRH and its receptors, as well as oxytocin receptors, are highly expressed in mast cells (5, 6). A possible pathogenic mechanism responsible for breastfeeding anaphylaxis could then be connected to the massive release

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se of the mast cells mediators due to the action of oxytocin and CRH, and facilitated by the absence of the stabilizing role provided by progesterone. Moreover, the decrease of oxytocin receptors after the first week post partum, as reported by some authors (7), can partially explains the gradual reduction in the severity of the symptoms observed in the patient during the lactation.

Such pathogenic hypothesis is appealing but the rarity of the described clinical condition leads us to surmise that there might be other modifications of the regulatory mechanisms not yet known.

Key-words: Breastfeeding anaphylaxis - Corticotropin releasing hormone (CRH) - Histamine release - Mast cells - Oxytocin.

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