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A Case Report of Non-Puerperal Galactorrhea Induced by Long-Term Use of Domperidone and Literature Review

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ABSTRACT

Objective: To investigate the clinical features, pathogenesis, and key points of diagnosis and treatment of non-puerperal galactorrhea induced by long-term use of domperidone, aiming to enhance clinicians' awareness of this adverse drug reaction and promote rational drug use.

Method: The clinical data of a 54-year-old female patient with non-puerperal galactorrhea caused by long-term oral domperidone were reported. The case was discussed and analyzed in conjunction with a review of relevant literature.

Results: The patient was a 54-year-old woman who presented with "intermittent galactorrhea for two weeks" and significant anxiety. For gastric discomfort, she had been taking domperidone (brand name: Motilium) 10 mg three times daily for two consecutive months. Upon admission, her serum prolactin level was found to be significantly elevated. Based on her medication history, a diagnosis of drug-induced hyperprolactinemia was considered. Domperidone was discontinued without any other specific treatment. Two weeks after cessation, the galactorrhea symptoms resolved, and a re-examination of serum prolactin returned to a normal level.

Conclusion: As a peripheral dopamine D2 receptor antagonist, long-term use of domperidone can lead to hyperprolactinemia and galactorrhea by blocking dopamine receptors in the tuberoinfundibular pathway. Clinicians should pay close attention to its endocrine side effects, strictly adhere to the treatment duration recommended in the drug's label, and strengthen physician-patient communication and adverse reaction monitoring during therapy to avoid unnecessary patient anxiety and waste of medical resources.

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Introduction

Non-puerperal galactorrhea refers to the spontaneous secretion of milk in women outside of pregnancy and lactation. It is a common symptom in clinical endocrinology with a complex etiology, involving physiological, pathological, and drug-induced factors, among which drug-induced hyperprolactinemia is a significant cause [1].

Domperidone, a selective peripheral dopamine D2 receptor antagonist, is widely used to treat nausea, vomiting, and dyspepsia due to its potent prokinetic effects. However, because it can partially cross the blood-brain barrier and block dopamine receptors on pituitary lactotrophs, it inhibits the negative feedback regulation of prolactin secretion, leading to elevated serum prolactin levels [2]. Although this adverse reaction is clearly stated in the drug's prescribing information, cases resulting from a lack of attention to treatment duration and insufficient physician-patient communication still occur in clinical practice. This paper reports a case of non-puerperal galactorrhea induced by long-term use of domperidone, aiming to emphasize the importance of standardized medication and humanistic care in clinical practice by analyzing its diagnostic and therapeutic process.

Case Presentation

Patient: Female, 54 years old, a teacher. She presented to the Department of Endocrinology at our hospital with the chief complaint of "spontaneous bilateral nipple discharge for two weeks." The patient had inadvertently noticed a small amount of milky white fluid discharge from both nipples upon squeezing two weeks prior, without associated redness, pain, or fever. Given her past medical history of "breast hyperplasia" with surgical treatment, she was highly suspicious of "breast cancer," which led to severe anxiety and insomnia, prompting her to seek medical attention.

History: She underwent surgery for "breast hyperplasia" three years ago and recovered well. She denied any history of chronic diseases such as hypertension, diabetes, or coronary heart disease. There was no history of head trauma or psychiatric disorders. She was a non-smoker and did not consume alcohol. Her menstrual cycles were regular, and she had been postmenopausal for two years.

Medication: Two months ago, the patient sought outpatient care for "epigastric fullness and belching" and was diagnosed

with "functional dyspepsia." The prescribing physician issued "Domperidone Tablets (Motilium) 10 mg, three times daily, before meals." The patient's gastric symptoms improved significantly after taking the medication, so she continued to take it continuously for two months until this presentation.

Physical Examination: Vital signs were stable. Examination of the heart, lungs, and abdomen revealed no significant abnormalities. Both breasts were symmetrical, with no palpable masses, nipple retraction, or peaud'orange appearance. A small amount of clear, milky white fluid could be expressed from both nipples. Neurological examination was unremarkable.

Laboratory and Imaging Studies: On the day of presentation, serum prolactin was measured at 85.2 ng/mL (reference range: 3.34-26.72 ng/mL), which was significantly elevated. Other sex hormones and thyroid function tests were all within normal limits. To exclude pituitary pathology, a plain and contrast-enhanced magnetic resonance imaging (MRI) scan of the pituitary gland was performed, which showed no abnormalities in the shape, size, or signal of the pituitary.

Diagnosis, Treatment, and Outcome: Synthesizing the patient's clear history of long-term domperidone use, typical galactorrhea symptoms, significantly elevated prolactin level, and negative pituitary MRI, a diagnosis of drug-induced hyperprolactinemia was made. The medical team explained the condition to the patient in detail, clarifying that the galactorrhea was most likely caused by long-term use of domperidone rather than breast cancer, which effectively alleviated her extreme anxiety. The patient was advised to discontinue domperidone immediately and to switch to another prokinetic agent (e.g., mosapride) for her gastric symptoms. Two weeks after discontinuation, the patient reported via telephone follow-up that the galactorrhea had completely resolved. A repeat serum prolactin level was 12.5 ng/mL, which had returned to the normal range.

Discussion

Domperidone is a benzimidazole derivative that acts as a potent peripheral dopamine D2 receptor antagonist. It enhances gastrointestinal motility and coordinates gastroduodenal movement by blocking dopamine receptors in the gastrointestinal tract, thereby promoting acetylcholine release [3]. However, dopamine is the primary neurotransmitter secreted by the hypothalamus that inhibits prolactin release. Although domperidone typically does not cross the blood-brain barrier easily, with long-term or high-dose use, it can partially enter the central nervous system or directly act on dopamine receptors in the pituitary stalk's median eminence, thereby lifting the inhibition on prolactin and causing a pathological increase in serum prolactin levels [2,4].

In this case, the patient took domperidone continuously for two months, far exceeding the recommended "initial course of treatment for other indications should not exceed 4 weeks" as stated in the prescribing information [5]. This directly led to the development of hyperprolactinemia. The diagnostic and therapeutic process of this case clearly demonstrates the typical characteristics of drug-induced hyperprolactinemia: a clear medication history, galactorrhea symptoms, elevated PRL levels, and rapid reversal of symptoms and laboratory markers after drug withdrawal. This is consistent with the literature reports that drug-induced hyperprolactinemia is typically a benign and reversible process [6].

The important lesson for clinicians from this case is: the indications and duration of domperidone therapy must be strictly controlled. For patients requiring long-term treatment for dyspepsia, the risks and benefits should be periodically reassessed, or consideration should be given to switching to other drugs that do not affect prolactin secretion. When prescribing, the potential for endocrine side effects such as "galactorrhea and menstrual disorders" should be highlighted as a key part of the informed consent process and documented in the medical record.

Another key aspect of this case is the diagnostic dilemma and patient psychological trauma caused by a breakdown in physician-patient communication. During her initial and follow-up visits, the treating physicians focused only on her gastric symptoms and failed to inform her about the drug's potential adverse effects and the limitations on duration of use. This information asymmetry meant that when galactorrhea—a "warning sign"appeared, the patient could not link it to the medication she was taking. Instead, she immediately associated it with her most feared condition, breast cancer, leading to immense psychological stress and panic [7].

This panic not only affects the patient's quality of life but can also interfere with clinical decision-making. The patient might demand unnecessary expensive tests out of fear (such as the pituitary MRI in this case, which was necessary for differential diagnosis but could have potentially been avoided if the drug-induced factor had been identified earlier) or develop distrust in the physician's initial explanation. In this case, the consulting endocrinologist quickly established a trusting relationship through attentive listening, empathy, and clear explanation. This communication model of "Listen-Empathize-Explain-Confirm" not only identified the cause but also provided effective psychological counseling, embodying the essence of the modern medical "bio-psycho-social" model [8]. This once again proves that good physician-patient communication is the cornerstone of healthcare quality and a bridge for building a harmonious doctor-patient relationship and improving treatment adherence.

Medical knowledge is constantly evolving, and the adverse reaction profiles of drugs are continuously being updated. Physicians must maintain an attitude of lifelong learning, not only being familiar with the core therapeutic effects of drugs but also having a comprehensive understanding of their mechanisms, interactions, and rare but serious adverse reactions [9]. The first two physicians in this case may have been well-versed in the prokinetic effects of domperidone but overlooked its endocrine impact, reflecting a limitation in their knowledge structure.

Furthermore, this case profoundly interprets the medical maxim: "To cure sometimes, to relieve often, to comfort always." When a patient is shrouded in fear, the physician's care and professional explanation are themselves a potent "medicine." The humanistic care practiced by the subsequent physician not only dispelled the patient's inner fears but also prevented a potential physiological-psychological vicious cycle caused by excessive anxiety. This reminds us that in clinical practice, humanistic care should be internalized as a professional competency, and we should safeguard patient health with both warmth and technical skill.

Conclusion

This case of non-puerperal galactorrhea induced by long-term use of domperidone reveals potential issues of non-standard medication use and insufficient physician-patient communication in clinical practice. It serves as a warning to clinicians: first, to attach great importance to the endocrine side effects of commonly used drugs like domperidone and strictly adhere to prescribed

treatment durations; second, to strengthen physician-patient communication, fully fulfill the duty of informed consent, and empower patients with the right to information and participation in decision-making; third, to continuously learn, improve knowledge systems, and integrate humanistic care into the entire diagnostic and therapeutic process. Through professional, responsible, and compassionate medical practice, we can better protect patient health and prevent preventable "drug tragedies."

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