

# Tongue edema as an adverse drug reaction to low-dose olanzapine in a cancer patient receiving palliative care

## Case Report

**Cite this article:** Moroni M, Bruera E (2024) Tongue edema as an adverse drug reaction to low-dose olanzapine in a cancer patient receiving palliative care. *Palliative and Supportive Care* 22(5), 1514–1515. <https://doi.org/10.1017/S147895152400052X>

Received: 8 January 2024  
Revised: 14 February 2024  
Accepted: 9 March 2024

### Keywords:

Palliative care; adverse drug reaction; off-label drugs in palliative care; coping strategies; advanced cancer

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### Abstract

**Objectives.** Olanzapine is an atypical neuroleptic indicated for treatment of various psychiatric disorders, but it has also several indications in palliative care (PC) patients: opioids misuse, nausea not related to chemotherapy, anorexia-cachexia syndrome, and sleep and mood disorders. Peripheral and facial edema are a rare side effect of the treatment with olanzapine. I report a case of an advanced cancer patient cared receiving PC who developed moderate tongue edema on day 1 of a low dose of olanzapine.

**Methods.** A patient with advance and metastatic colon cancer presented moderate tongue edema on day 1 of a low dose (2.5 mg) of olanzapine for the treatment of his nausea, anorexia-cachexia syndrome, and mood disorder (mainly anxiety).

**Results.** The patient discontinued the drug with resolution of the edema. The day after he called our outpatients' service, a prompt physical examination, together with blood tests, excluded other differential diagnosis.

**Significance of results.** To the best of our knowledge, this is the second case reporting head and neck localized edema due to olanzapine treatment in a patient with advanced cancer receiving PC. Considering the increasing use of olanzapine as off-label treatment in these patients (often for cluster symptoms), our report could help clinicians in daily practice and researchers on put a deeper focus on indications for olanzapine in PC.

## Introduction

Patients with advanced cancer frequently develop multiple severe symptoms with a negative impact on their quality of life. Off-label drug use is a frequent practice in palliative care (PC) for the management of multiple symptoms (Hagemann et al. 2019; Kwon et al. 2017).

Olanzapine is an atypical neuroleptic indicated for treatment of various psychiatric disorders, but in the setting of PC, its off-label use is increasing not only for nausea/vomiting related to chemotherapy but also (Fonte et al. 2015; Saudemont et al. 2020) for opioid misuse (Go et al. 2018; Julião et al. 2022b) and symptoms such as anorexia-cachexia, anxiety, and sleep disorders (Bonar et al. 2023; Davis and Sanger 2021; Dev et al. 2023).

Peripheral edema occurs in approximately 3% of patients receiving olanzapine, and there are a few case reports of facial edema (Cook et al. 2020; Kuppili et al. 2018; Malhotra and Shrivastava 2013; NG et al. 2003). The pathophysiology of this adverse event may be related to vasodilatation and disturbance of fluid regulation and electrolyte balance. There is only 1 case report of facial edema in a cancer patient in PC (Julião et al. 2022a).

We report a case of a 74-year-old man with advanced cancer who developed moderate tongue edema on day 1 of therapy with 2.5 mg olanzapine daily.

## Case presentation

A 74-year-old man with advanced colon cancer with multiple liver metastases who refused further chemotherapy due to severe toxicity and disease progression was referred to our outpatient service on March 2023. His past medical history was negative for allergies, other significant or other medical problems.

When his oncologist reported disease progression, the patient was comfortable with his decision to discontinue cancer treatment.

He felt that he was happy about his life as a successful musician, a painter, and a gourmet, and he stated “I have no pain and no distressful symptoms for now; I can still play my music, eat my favorite foods, take long walks and also long phone calls with my sons! I cannot heal, but I can still wholly live my life. And you'll help me not to suffer when that time will come.”

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In December 2023, he developed a cluster of symptoms including insomnia, anxiety related to prognosis, nausea and worsening of cachexia-anorexia syndrome, and he received a prescription of 2.5 mg of olanzapine daily.

Seven days after the beginning of therapy, the patient called and reported that on day 1 he experienced an episode of tongue swelling, burning mouth, and sore throat. He discontinued olanzapine on day 2, with rapid resolution. The edema and the other symptom disappeared within 24 hours; he did not present lower extremity edema, bronchospasm or airway compromise, itch, or other dermatological signs.

Physical examination showed no other possible differential diagnoses, and the patient stated that he did not start any new drugs or foods prior to the tongue edema.

Laboratory tests excluded any other organic factors, and the Naranjo Algorithm described a probable drug reaction to olanzapine (Naranjo et al. 1981).

Although the event did not worsen the quality of life of the patient or his symptoms, it caused anguish on his awareness of prognosis related to symptoms' burden and possible future drug reactions. We had a candid conversation about his personal outcomes and the quality of life, and he reported joy at having his 2 sons and their families at home for Christmas.

He was also happy to give full consent to this case report.

## Discussion

To the best of our knowledge, this is the second case reporting edema in the head and neck region due to olanzapine treatment in a patient with advanced cancer receiving PC (Julião et al. 2022b) and the first reporting a tongue edema as adverse drug reaction.

Our patient had good performance status (ECOG-1: restricted in strenuous activity), but he was elderly and with advanced cancer as the patient in the Julião et al. report. The clinical course suggests that this rare adverse event might not be related to drug dose but rather to clinical factors as advanced cancer and elder age. More research is needed in order to better understand the pathophysiology of olanzapine-related edema.

Considering the increasing use of olanzapine as off-label treatment in PC (often for cluster symptoms), our report could increase awareness of this rare and potentially serious complication that can be rapidly resolved after olanzapine discontinuation.

**Acknowledgments.** Thanks to Silvia Tanzi and Luca Ghirrotto from USL-IRCCS Reggio Emilia, Italy, for your constant endorsement not to give up with research!

**Funding.** This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

**Competing interests.** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## References

- Bonar S, Schneider HL and Cook K** (2023) Olanzapine for non-chemotherapy related nausea and emesis in patients with a palliative care consult. *Journal of Pain and Symptom Management* **66**(4), e455–e459. doi:10.1016/j.jpainsymman.2023.06.019
- Cook EA, Shipman D and Fowler TG** (2020) Whole-body edema with olanzapine: A case report and literature review. *Mental Health Clinician* **10**(5), 291–295. doi:10.9740/mhc.2020.09.291
- Davis MP and Sanger GJ** (2021) The benefits of olanzapine in palliating symptoms. *Current Treatment Options in Oncology* **22**(1), 5. doi:10.1007/s11864-020-00804-1
- Dev R, Fortuno ES III and Amaram-Davil JS** (2023) Benefits and risks of off-label olanzapine use for symptom management in cancer patients – a case report. *Annals of Palliative Medicine* **12**(3), 600–606. doi:10.21037/apm-22-1167
- Fonte C, Fatigoni S and Roila F** (2015) A review of olanzapine as an antiemetic in chemotherapy-induced nausea and vomiting and in palliative care patients. *Critical Reviews in Oncology/Hematology* **95**(2), 214–221. doi:10.1016/j.critrevonc.2015.02.010
- Go SI, Song HN and Lee S** (2018) Craving behavior from opioid addiction controlled with olanzapine in an advanced cancer patient: A case report. *Journal of Palliative Medicine* **21**(9), 1367–1370. doi:10.1089/jpm.2017.0636
- Hagemann V, Bausewein C and Remi C** (2019) Drug use beyond the licence in palliative care: A systematic review and narrative synthesis. *Palliative Medicine* **33**(6), 650–662. doi:10.1177/0269216319840602
- Julião M, Lemos-Caldas M and Ulrich J** (2022a) The use of olanzapine for nonmedical opioid use in a patient with cancer receiving palliative care. *Journal of Palliative Medicine* **25**(2), 181–183. doi:10.1089/jpm.2021.0569
- Julião M, Sobral MA and Ferreira T** (2022b) Facial edema as an adverse drug reaction to olanzapine in a patient with cancer receiving palliative care. *Palliative & Supportive Care* **20**(5), 752–753. doi:10.1017/S1478951522000037
- Kuppili PP, Nebhinani R and Jain S** (2018) Olanzapine associated palpebral edema: An uncommon adverse effect of a commonly prescribed drug. *Asian Journal of Psychiatry* **36**, 60–61. doi:10.1016/j.ajp.2018.06.010
- Kwon JH, Kim MJ, Bruera S, et al.** (2017) Off-label medication use in the inpatient palliative care unit. *Journal of Pain and Symptom Management* **54**(1), 46–54. doi:10.1016/j.jpainsymman.2017.03.014
- Malhotra M and Shrivastava MK** (2013) Facial edema with olanzapine. *General Hospital Psychiatry* **35**(6), 682.e7–682.e8. doi:10.1016/j.genhosppsych.2013.06.012
- Naranjo CA, Busto U and Sellers EM** (1981) A method for estimating the probability of adverse drug reactions. *Clinical Pharmacology & Therapeutics* **30**(2), 239–245. doi:10.1038/clpt.1981.154
- NG B, Postlewhite A and Rollnik J** (2003) Peripheral oedema in patients taking olanzapine. *International Clinical Psychopharmacology* **18**(1), 57–59. doi:10.1097/00004850-200301000-00010
- Saudemont G, Prod'Homme C and Da Silva A** (2020) The use of olanzapine as an antiemetic in palliative medicine: A systematic review of the literature. *Journal of Pain Symptom Management* **66**(4), e455–e459. doi:10.1016/j.jpainsymman.2023.06.019