

# A Patient with Adenocarcinoma Stomach on FLOT (5-Fluorouracil/Leucovorin, Oxaliplatin, and Docetaxel) Chemotherapy Presents with Tooth Discoloration: Spot the Diagnosis

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## Description

A male in his 70s, with no known comorbidities or history of substance abuse, presented with complaints of abdominal discomfort and dyspepsia. Despite being prescribed proton pump inhibitors, his symptoms persisted. An upper gastrointestinal endoscopy revealed a gastric ulcer. Histopathological examination of the biopsy confirmed a diagnosis of moderately differentiated adenocarcinoma stomach. A positron emission tomography PET scan showed hypermetabolic, asymmetrical, circumferential wall nodular thickening involving the medial wall of the antronyloric region of the stomach, along with hypermetabolic enlarged perigastric lymph nodes. The patient was started on perioperative chemotherapy as per the FLOT (5-fluorouracil/leucovorin, oxaliplatin, and docetaxel) protocol. After completion of four cycles of chemotherapy, he underwent surgery. He was then started on postoperative adjuvant chemotherapy.

Following six cycles of chemotherapy, discoloration of the patient's teeth was observed. Specifically, yellow-black discoloration was noted on the lower teeth, and yellowish discoloration on the upper incisors (**Fig. 1**) of the patient. The patient was not taking any additional medications and denied any history of tobacco use. What can be the differential diagnosis?

After completion of a total of eight cycles of chemotherapy as planned, he was then advised to have 3 monthly follow-up. At his 3-month review, the discoloration had partially resolved, implying chemotherapy to be the causative agent. (**Fig. 2**) While chemotherapy-induced tooth discoloration has been previously reported, such occurrences remain relatively rare.<sup>1-3</sup> Discoloration of teeth and enamel hypoplasia may result from chemotherapeutic agents like vincristine, vinblastine, and cyclophosphamide, which can interfere with ameloblast activity, particularly by disrupting their microtubule-



**Fig. 1** Left: presence of yellow-black discoloration in the lower teeth (arrowhead). Right: yellowish discoloration in the upper incisors (arrowhead).

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**Fig. 2** Left: showing resolution of discoloration in the lower teeth 3 months post last chemotherapy. Right: showing resolution of yellowish discoloration in the upper incisors 3 months post last chemotherapy.

dependent calcium transport systems.<sup>4</sup> This is a rare case of FLOT chemotherapy-induced tooth discoloration. Clinicians must remain vigilant for this adverse effect while administering this chemotherapy regimen to patients.

#### Patient's Consent

Patient consent has been taken for this article.

#### Acknowledgment

The manuscript has been read and approved by all the authors, and the requirements for authorship as stated earlier in this document have been met, and each author believes that the manuscript represents honest work.

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