# Paracetamol induced fixed drug eruptions: A case report

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## Abstract

To report a case of fixed drug eruption (FDE) due to paracetamol intake. FDE is cutaneous reactions in already sensitized individuals. The characteristic of FDE is recurrence at same site on repeated insults with the offending drug. Paracetamol induced FDE is widely reported in children and adolescents but not among elderly individuals. A 62-year-old male patient had a chief complaint of burning sensation in lips and oral cavity since 3 days. History revealed intake of paracetamol. Encrusted lesions were present on the cutaneous surfaces of lips, and erythematous areas were present on the anterior third of the hard palate. Based on Naranjo’s casualty assessment scale, provisional diagnosis of adverse drug reaction (ADR) was given. All drugs were stopped, but the patient had a similar episode of such lesions on the same site after 8 weeks. This establishes the diagnosis of FDE due to paracetamol ingestion. Though paracetamol is widely used and is considered a safe drug, ADR to it are possible and reported earlier. Clinical significance: Reporting of FDE to dentist is uncommon. But on encountering such a situation, the dentist should be able to identify FDE and isolate the causative drug by means of history. A simple clinical assessment scale like Naranjo’s casualty assessment scale can establish the presence of ADR.

## Keywords:

Adverse drug reactions, fixed drug eruptions, paracetamol

## Introduction

Fixed drug eruptions (FDE) are adverse drug reactions (ADR) which affect individuals who are already sensitized to the drug.¹ Cutaneous and intra-oral manifestations of FDE are characteristic of the disease. The factor governing the appearance of FDE is the time period of sensitization. Patients exhibit FDE to either continuously or intermittently administered drugs. The hallmark of FDE is recurrence at the same site on repeated insults with the offending drug. However, exceptions being the refractory period where previously sensitized areas do not flare.² Paracetamol is the most commonly available over the counter antipyretic. FDE due to paracetamol is common among children and adolescents. But FDE among elderly due to paracetamol is unusual.³ The clinical appearance of FDE varies from rashes to blebs. They are commonly manifested as maculopapular rashes or bullous eruption over the skin surfaces of lips, palms, soles, genitals and groin area. Intraoral appearance of FDE ranges from erythema, bullae to ulceration.⁴ The common site affected is the anterior third of the hard palate. Assessment scales are helpful in objectively establishing the casualty due to FDE. The commonly used assessment scale is Naranjo’s assessment scale.

This case report describes the appearance of FDE over lips and in the oral cavity in a 63-year-old man who had an intermittent exposure to paracetamol. No specific treatment was instituted in this case and the lesions healed over the due course.

## Case Report

A 63-year-old man reported to the department with a chief complaint of burning sensation in the lips and oral cavity since 3 days. Patient also complained of bleeding from the lips from the same time. The medical history revealed a bout of fever and running nose since 1 week for which the patient visited a physician. He was prescribed a course of paracetamol tablet (500 mg daily four times till the fever subsided) and tablet levocetirizine (5 mg once daily for 1 week). But soon after taking the tablets for 2 days, patient noticed blisters over the upper lip, lower lip, left corner of the mouth and erythematous areas with a burning sensation in the anterior third of the hard palate.
palate. On the 3rd day, the patient noticed violet patches over the right left forearm and trunk on the right side. History revealed he had no such episodes in the past. On enquiring, patient revealed that he had taken paracetamol tablets on several occasions previously for fever, but had not encountered any reactions.

On examination, raw eroded areas with encrustations were present on the upper lip, lower lip and left corner of the mouth which was tender on palpation [Figure 1a]. On intraoral examination, diffuse erythematous area was present on the anterior third of the hard palate adjacent to the palatal surface of tooth number 21, 22, 23, 24 and 25. The erythematous area was tender with no evidence of bleeding on palpation.

General physical examination revealed nothing significant. The patient was then subjected to hematologic examination. All the hematologic parameters were within normal limits except for mild raise in the neutrophils and erythrocyte sedimentation rate which could be attributed to the episode of fever and running nose, indicative of rhinitis. Thus, a provisional diagnosis of drug hypersensitivity reaction was given.

A differential diagnosis of Steven Jhonson syndrome and erythema multiforme could not be ruled out due to the site and age predilections. Although the etiology of all these conditions remains idiopathic, drugs are known triggers for them.

Topical application of lignocaine 2% was prescribed for lesion in the oral cavity and ointment saframycin cream (framycetin sulphate IP 1% w/w, 30 g) was prescribed for topical application over lips.

The patient was advised to stop all medications as the fever was well under control and the rhinitis had stopped after 3 days of paracetamol and levocetirizine. The probability of FDE due to paracetamol cannot be ruled out after applying Naranjo’s scale of causality assessment of ADR with a score of 4 which was indicative of possible ADR.

Thus, keeping in view the fact that this was the first episode of drug reaction and that there were no other avenues for ADR. Besides, the causality assessment scale by Naranjo revealed a possible ADR, a final diagnosis of ADR to paracetamol was suspected.

The patient was recalled after 2 weeks for a review. At the end of 2 weeks, the lesions on the lip had substantially healed with encrustations [Figure 1b]. Intra oral lesion had reduced erythema but had proceeded to ulceration. Violet discoloration resembling macules was present on the forearm and trunk [Figures 2a and b].

The patient visited the department again after 8 weeks with the same problem. This time the patient had purchased an over the counter drug (paracetamol 500 mg, phenylephrine hydrochloride 10 mg, chlorpheniramine maleate 2 mg, caffeine 30 mg) as he had the same symptoms of fever and running nose. However this time, the lesion on the lower lip was more extensive and painful [Figure 3]. However, lesions were absent on the left corner of mouth and anterior third of the hard palate. This recall visit of the patient helped us to identify the drug reaction as an FDE in relation to lower lip.

**Discussion**

FDE is a cutaneous ADR which is commonly seen in children and adolescents. It is characterized by recurrent eruptions when the offending drug is re-administered. The hallmark of FDE is the recurrence in the same site on repeated administration of the offending drug. In our case, the patient had a second attack of drug eruptions after a span of 8 weeks in the same area, i.e., cutaneous surface of lips.

Paracetamol induced FDE is reported in the literature in <1.5% of all cases of FDE. This case is unusual because the affected patient was of the elder age group, whereas FDE affects children and adolescents. This could be attributed to the hyper-
immune reaction which sensitized the individual to paracetamol. Besides, in this case both cutaneous and intraoral findings existed along with extraoral manifestations. This case reflects a broad spectrum of events in FDE. The encrusted appearance of the lips and the intraoral erythematous appearance are indicative of active phase of FDE\(^6\) whereas the violet macular rash over the trunk and forearm imply recovery phase, which is characterized by hyper pigmented areas.\(^7\)

The assessment of ADR is done by means of Naranjo’s ADR scale. A score of >9 is indicative of definite ADR. A score of 1-4 is indicative of possible ADR.\(^8\) Our patient had a score of 4, thus indicative of FDE. The present case shows a temporal relation between the offending drug paracetamol and the presence of FDE. A patch test would have been useful in this case, but the patch test must be done on cases who are not on any immunosuppressants or anti-allergic agents in the past 48 h. In our case, patient was on tablet levocetirizine from past 72 h. Hence, a patch test would have yielded false results.

**Conclusion**

Paracetamol is an over the counter drug commonly used as antipyretic. FDE with paracetamol in elderly patients has not been well-documented. Thus, this case presents an unusual situation where there were drug reactions at the same site indicative of FDE. Although the assessment of FDE is done with a patch test, drug challenge test, lymphocyte transformation test and biopsy, this case was identified based on the clinical course of the disease. Although it is a crude method, but the clinical course of the disease itself gave a clue to the diagnosis.

**Clinical significance**

FDE is not frequently encountered in a dental setup. This case reports opens a plethora of questions about the identification and management of such conditions. A dentist may not treat the FDE but can definitely play a role in the diagnosis and palliative treatment.

**References**