

CASE REPORT

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Metronidazole Induced Xerostomia: A Case Report of an Elderly Patient

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Received: 28 December 2015;

Accepted: 05 February 2016

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ABSTRACT

Xerostomia is a common but frequently overlooked condition that is typically associated with salivary gland hypofunction. It is one of the many side effects of some antihistamines, decongestants, and muscle relaxants. Incidence of xerostomia is higher among elderly patients particularly among those with kidney diseases. We present a case report of a 85-year-old female patient who suffered from metronidazole-induced xerostomia during her hospital stay.

Key words: Xerostomia, Metronidazole, Geriatric, Salivary flow rate.

INTRODUCTION

Forty-five percent of the geriatric Indians have chronic diseases and disabilities.^[1,2] Epidemiological studies highlighted that numerous people suffer from dry mouth, and its prevalence even increases with age.^[3,4] One of the major correlations between the prevalence of dry mouth and age is the consumption of xerogenic drugs affecting either perception or secretion of saliva.

Xerostomia (dry mouth), common but frequently overlooked condition that is typically associated with salivary gland hypofunction is one of the many side effects of some antihistamines, decongestants, muscle relaxants. The salivary flow decreases rapidly during the first week of treatment, followed by fibrosis of the salivary glands and permanent loss of secretory capacity, thus dramatically diminishing quality of life.^[5,6] It can change speech patterns, allow dentures to rub and changes, dietary preferences. Chronic xerostomia significantly increases the risk of

experiencing dental caries, candidiasis, demineralization, tooth sensitivity and other oral diseases that may affect the patient's quality of life negatively.^[7] Recognizing and treating the causes of dry mouth are essential to providing optimal oral health care.

Metronidazole is one of the broad spectrum nitroimidazole compounds used majorly to treat infections. The indications for using metronidazole include Crohn's disease, endocrine exophthalmos, rheumatoid arthritis, rosacea, and acne. The severity of these diseases and the medications used for them can cause reduction in the salivary flow.

CASE REPORT

An 85-year-old female patient was admitted to the general medicine unit for investigation of chronic kidney disease. Her past medical history indicated that she was diagnosed with sepsis 15 years ago. At the time of admission, she complained vomiting for 3 days, decreased urine output and fatigue. Her medical examination revealed that she had chronic kidney disease. Laboratory tests identified were



haemoglobin (12.2 g/dl), liver function tests (SGPT: 60 U/L, SGOT:16 U/L), serum creatinine levels (2.7 mg/dl). Treatment was begun with metronidazole 7.5 mg/kg PO/IV (over 1 h) q6 hr, furosemide 40 mg twice daily, vitamin supplements along with protein restricted diet. After 2 days of this therapy, the patient complained about dry mouth, reduced salivary flow and discomfort in swallowing. Metronidazole was discontinued along with the use of mouthwash which containing sodium bicarbonate. After this the patient recovered slowly and started swallowing faster.

DISCUSSION

This patient presented with several clinical signs typical of xerostomia (e.g., difficulty in swallowing and chew, salivary flow, reduced and unpleasant taste) which were initially attributed to the normal aging process. The clinical signs were apparent, which are common to several diseases often encountered in elderly people. Aging is one of the factors contributing to xerostomia. It occurs when the salivary glands are damaged and/or not functioning properly.^[8,9] Metronidazole is a broad spectrum antimicrobial, antiprotozoal agent that has been extensively used in the treatment of anaerobic infections. Xerostomia or hyposalivation can be a symptom of certain diseases or be an adverse effect of certain medications. The condition is characterized by an attenuation or absence of salivary flow leading to cheilosis, and problems with mastication, speech and swallowing. Reduced salivary flow also results in a higher incidence of dental caries, causes discomfort for denture wearers.^[10] A dry mouth is mainly an annoyance, but its diligence may promote infections. There are multiple reasons that drugs can produce hyposalivation.

Age and medication seems to play a more important role in individuals with objective evidence of hyposalivation, while female gender and psychological factors are important in individuals with subjective oral dryness. Some studies reveal that drug-induced xerostomia is one of the common causes for oral health-related problems in elderly individuals who are on long-term drug therapy. So caution should be taken

while using this type of drugs in geriatric population. Dry mouth is typically not recognized until it has advanced, that most people fail to seek timely consultation and treatment by a medical or dental professional, that the disease is progressive and that it generally leads to additional serious oral complications over time. Clinicians should educate the patient regarding the use of drugs and its side effects and adverse effects.^[11]

CONCLUSION

This case study showed an unusual appearance of xerostomia presented with metronidazole administration. A decline in salivary flow, appear to play a secondary role in the quality of life in elderly patients. The quality of life in elderly patients may be severely diminished due to an increased subjective perception of dry mouth. Clinicians should draw their attention to this adverse drug reaction when they handle elderly patients and play a key role in improving quality of life of the elderly patients.

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Cite this article as: Divya G, Mari KM, Ranganayakulu D, Metronidazole Induced Xerostomia: A Case Report of an Elderly Patient. *J Pharm Pract Community Med*. 2016;2(2):58-59.