

DIGO: Drug Induced Gingival Overgrowth

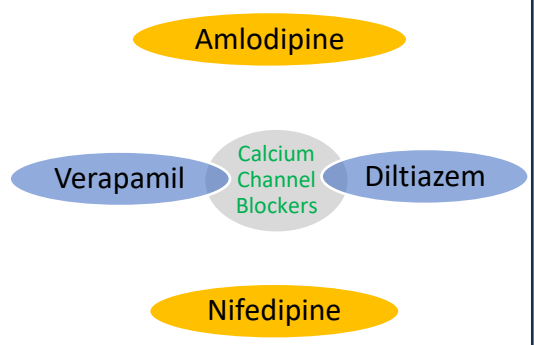
Gingival overgrowth is the result of an inflammatory response to plaque and irritation. What typically begins as an inflammatory lesion can eventually convert to a fibrotic lesion that traps bacteria and self perpetuates.

The overgrowth can arise from several factors:

- Bacterial-Mechanical irritation
- Hormonal Alteration
- Systemic Manifestations
- Drug Induced

Certain drugs have been well documented as contributors to gingival overgrowth.

We see drug induced overgrowth most frequently with the class of antihypertensive drugs classified as calcium channel blockers. Of these, Amlodipine and Nifedipine are the ones associated with gingival overgrowth. Although the exact mechanism is unknown, bacterial plaque is the trigger.



The lesions tend to first appear in the interproximal areas and grow over several months. Eventually, the growth will coalesce on the facial, forming what appears to be one large lesion. The overgrown tissue prevents proper hygiene which predictably results in an increased inflammatory response.

The overgrowth typically presents on the buccal however, it can also be seen on the palatal and less frequently on the lingual.



Clinical Management

Overgrown lesions typically require surgical resection. However, all variables need to be managed in order to have a stable long lasting result. There is always an inflammatory and a fibrotic component. The inflammatory component is managed first.

The first step is detailed subgingival debridement and the establishment of a detailed hygiene protocol emphasizing cleaning around the areas of overgrowth. In addition, we consult with the patient's internist or cardiologist about changing the medication. As not all physician are aware of the oral problems encountered by the patient, some education may be required.



The patient has undergone detailed subgingival debridement. In addition, she has been switched to a different antihypertensive medication. It typically takes several months for the lesions to reduce in size.

Initial presentation

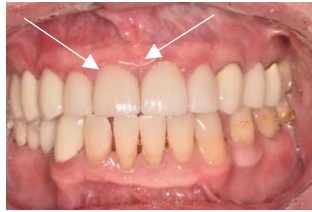
Four months after debridement

Clinical Management- continued

DIGO does not operate as a single entity, rather, it is multifactorial. As such, it is critical to isolate and manage each variable.



Initial presentation



Five months post Treatment



Five months after debridement and a new medication there is significant improvement, but residual overgrowth remains due to irritation from overcontoured margins. This required recontouring of the restorations and surgical resection.



Many patients with DIGO present with other significant co-morbidities.

In this instance, the patient presented with Diabetes, Hypertension, moderate-advanced periodontitis as well as peri-implantitis. Among his many medications, he was taking Amlodipine. This type of patient requires comprehensive medical and oral care beyond debridement and medication change.

Conclusions and recommendations

When reviewing the medical history, patients on Calcium Channel Blockers should be advised of the potential side effects and the importance of proper oral hygiene. Communication with the medical team is important to make sure that the entire team understands the nature of the overgrowth and the clinical implications. The reported incidence of DIGO is much greater with Nifedipine (20%) vs. Amlodipine (1-3%). However, in our practice we typically see many more cases of DIGO with Amlodipine. From a practical clinical perspective, Amlodipine is prescribed much more frequently as it has greater compliance due to once per day dosage, vs. twice per day for Nifedipine. In addition, Amlodipine costs less (\$.74/pill vs. \$.94- \$1.71/pill) and has fewer side effects; therefore, Amlodipine is prescribed much more frequently.

Surgical correction is typically needed in areas where the overgrowth has become fibrotic. Best results are obtained in areas with reduced inflammation in patients with good oral hygiene. Many of these patients require comprehensive treatment beyond basic periodontal therapy.

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