

RGH Pharmacy E-Bulletin

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A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.

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Drug-induced gingival hyperplasia

Gingival hyperplasia, otherwise known as gingival overgrowth, is a condition characterised by widespread swelling of the gums (gingiva) and can affect speech, mastication, tooth mobility and aesthetics. Among other things, it can be caused by a variety of medications, and was first noticed in 1939 in patients treated with phenytoin. Some other medications commonly known to cause gingival hyperplasia are the immunosuppressant cyclosporin, and calcium channel blockers frequently used for the treatment of hypertension.

The incidence of this adverse effect is difficult to determine, mainly because a degree of periodontal or gingival disease is often pre-existing in affected patients and it is not clearly understood how these medications actually cause gingival hyperplasia. However some risk factors have been established, and primarily concern the level of oral hygiene prior to starting treatment. The presence of gingival inflammation, plaque and increased number of Langerhans cells in the oral epithelium may all predispose patients to development of gingival hyperplasia once treatment with cyclosporin, phenytoin or calcium channel blockers is commenced. Certain underlying autoimmune and inflammatory conditions may also contribute, complicating a definitive diagnosis of drug-induced gingival hyperplasia. However, it is suggested that drug-induced gingival hyperplasia is more severe than that associated with these other conditions.

The extent and severity of gingival overgrowth may be related to the level of pre-existing plaque accumulation and, in the case of cyclosporin and phenytoin, drug dose, duration of treatment and plasma levels of the drug may also contribute. It normally becomes apparent within 1-3 months of treatment initiation.

Below is a table containing the reported incidence of gingival hyperplasia according to the manufacturer's product information and other literature for cyclosporin, phenytoin and all calcium channel blockers (except nimodipine - for which there is no mention of gingival hyperplasia, most likely due to its relatively short duration of treatment).

	Medication	Product Information	Other literature
Calcium channel blockers	amlodipine	0.1-1%	3%
	lercanidipine	>1%	-
	nifedipine XR	0.01-0.1%	38%
	nifedipine IR	0.1-1%	
	felodipine	>1%	-
	verapamil	<1%	4-19%
	diltiazem	"infrequently"	20%
	cyclosporin	≥10%	Up to 85%
	phenytoin	"frequently"	Up to 50%

While each case must be considered on an individual basis, the approach to treatment of gingival overgrowth ideally involves cessation (or at least dose reduction) of the suspected causative medication, and the use of an alternative. However this is often not possible, and controlling the inflammatory component through aggressive dental management sometimes involving gum surgery may be warranted, although not curative. Patients should be informed by their doctors and pharmacists of the potential for this adverse effect when commencing treatment, as well as the importance of maintaining good oral hygiene, plaque minimisation and involvement of their dentist for regular check-ups.

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FOR FURTHER INFORMATION CONTACT THE PHARMACY DEPARTMENT ON 82751763 or email: chris.alderman@health.sa.gov.au
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