

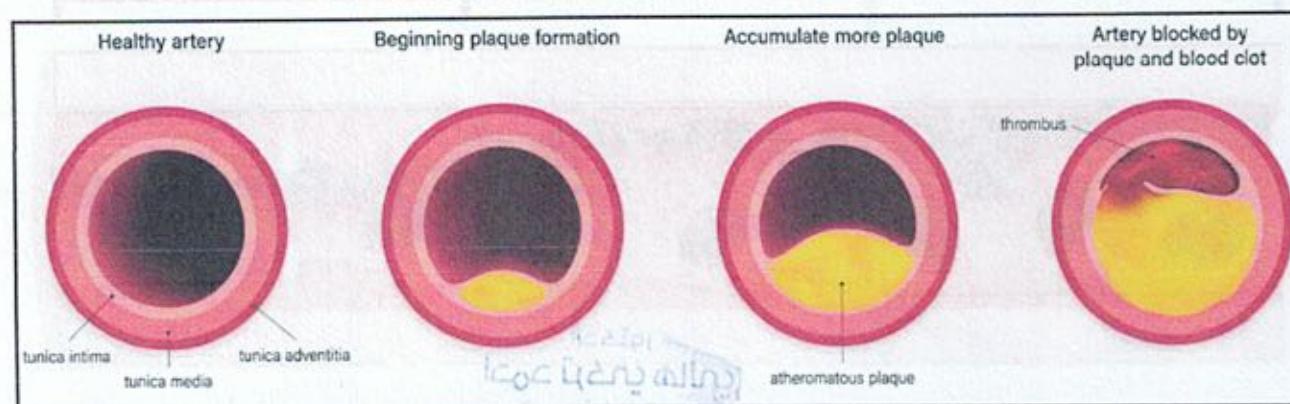
I. Arteriosclerosis & Atherosclerosis

Arteriosclerosis is a general term for the thickening and loss of elasticity of arterial walls ("hardening of the arteries"). There are several patterns, but Atherosclerosis is the most clinically significant.

Atherosclerosis

This is a disease of medium and large arteries characterized by the formation of atheromas (intimal-based plaques).

Atherosclerosis

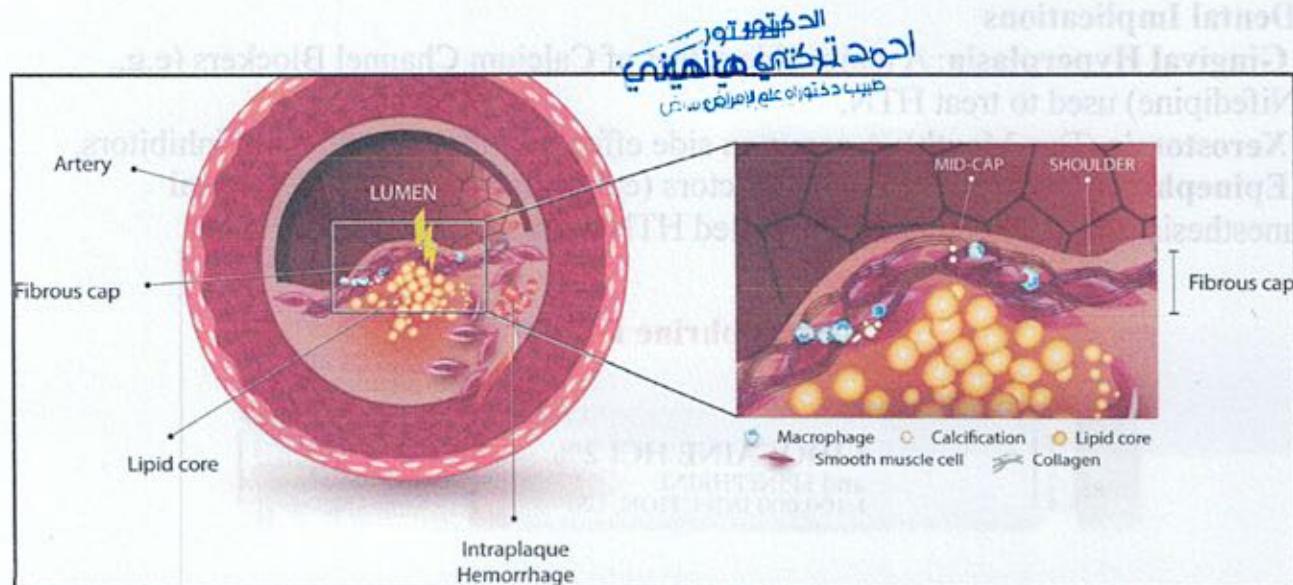


Plaque Components:

Fibrous Cap: Composed of smooth muscle cells and dense collagen.

Necrotic Core: Contains lipid (mostly cholesterol), foam cells (macrophages stuffed with lipids), and debris.

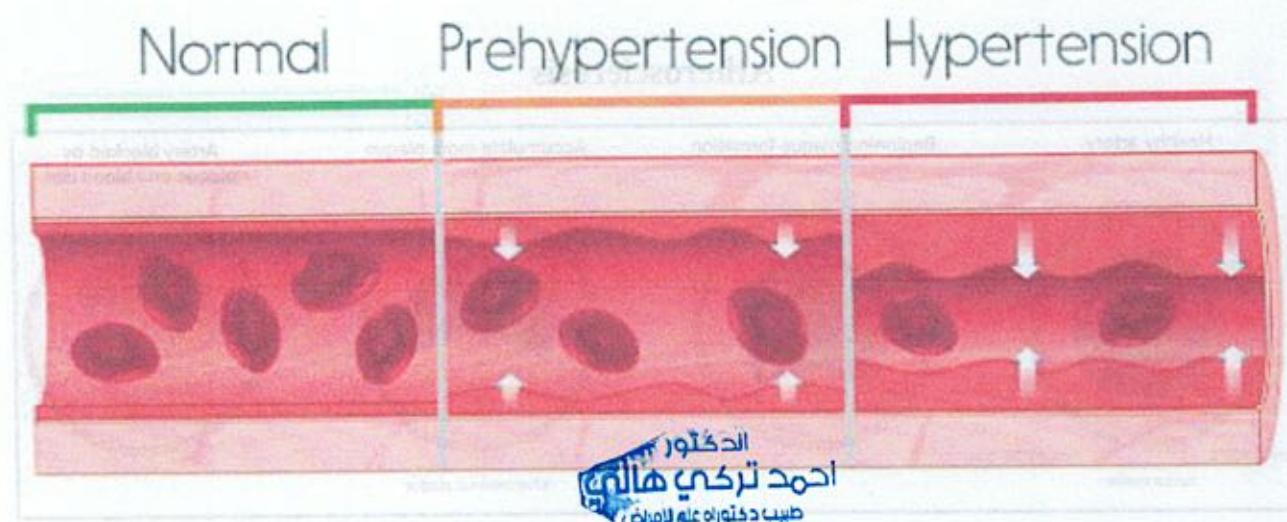
Complications: Plaque rupture can lead to thrombosis, myocardial infarction, or stroke.



Dental Significance: Many patients are on antiplatelet (Aspirin) or anticoagulant (Warfarin) therapy to prevent clot formation on plaques. This increases the risk of prolonged post-operative bleeding after extractions.

II. Hypertension (HTN)

Hypertension is defined as a sustained blood pressure $> 140/90$ mmHg. It is often asymptomatic but causes profound damage to the vasculature over time.



Patterns of Vascular Change

Hyaline Arteriolosclerosis: Occurs in "benign" (stable) HTN. Characterized by a pink, glass-like thickening of the walls of small arteries, leading to narrowed lumens.

Hyperplastic Arteriolosclerosis: Occurs in "malignant" or severe HTN.

Characterized by "onion-skin" concentric thickening of the vessel walls due to smooth muscle cell proliferation and basement membrane duplication.

Dental Implications

Gingival Hyperplasia: A major side effect of Calcium Channel Blockers (e.g., Nifedipine) used to treat HTN.

Xerostomia (Dry Mouth): A common side effect of diuretics and ACE inhibitors.

Epinephrine Limit: Use vasoconstrictors (epinephrine) cautiously in local anesthesia for patients with uncontrolled HTN to avoid hypertensive crisis.

Epinephrine Limit

1.7 mL
LIDOCAINE HCl 2%
and EPINEPHRINE
1:100,000 INJECTION, USP

III. Vasculitis (Vessel Inflammation)

Vasculitis is an inflammatory destruction of blood vessels, often immune-mediated.

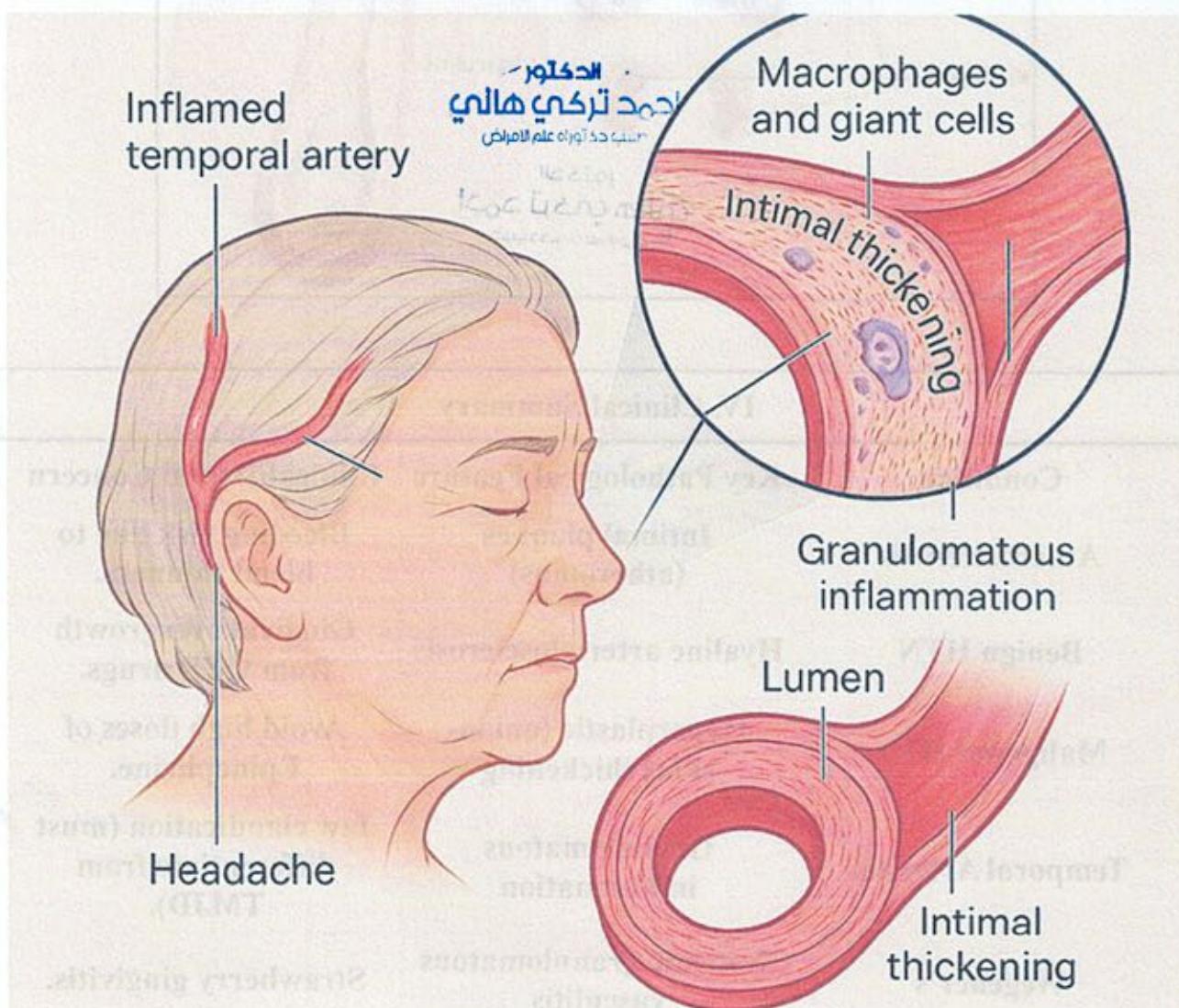
Giant Cell (Temporal) Arteritis

This is the most common vasculitis in elderly patients. It primarily affects branches of the carotid artery.

Clinical Presentation: Severe headache, scalp tenderness, and jaw claudication (pain due to ischemia in the jaw muscles while chewing).

Danger: If the ophthalmic artery is involved, it can lead to sudden, permanent blindness. This is a medical emergency.

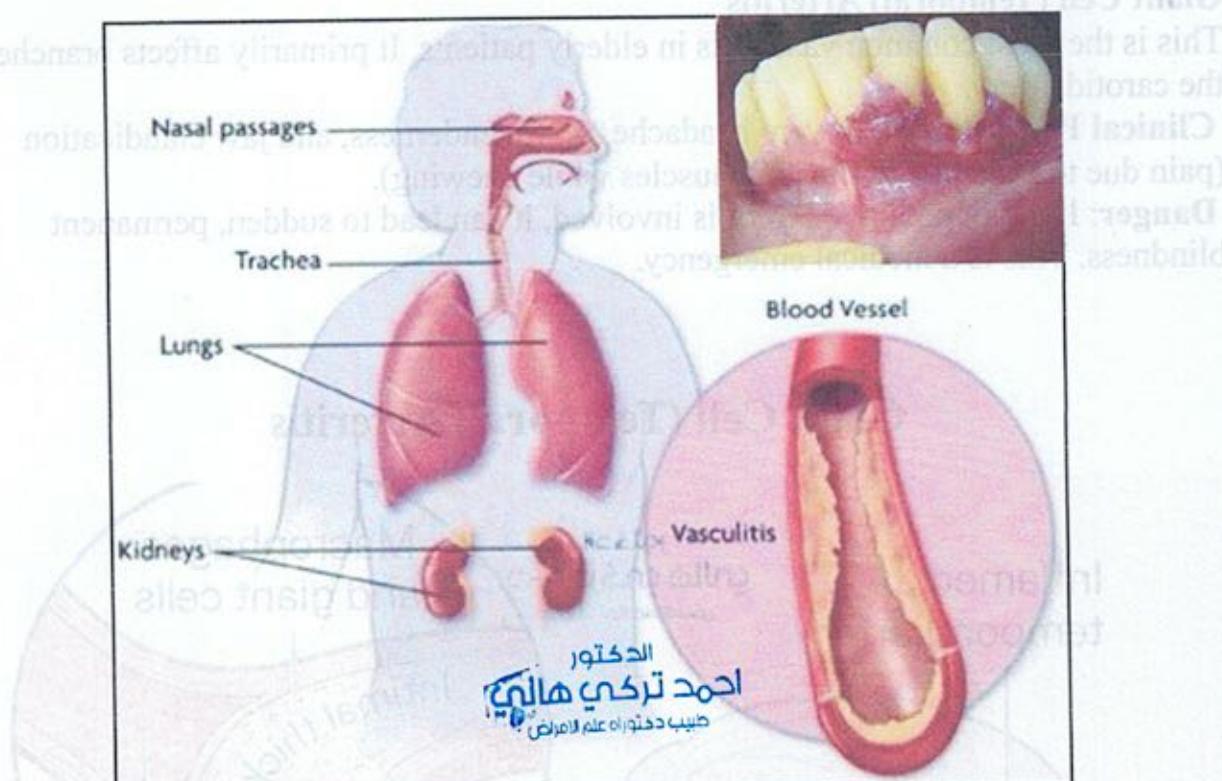
Giant Cell (Temporal) Arteritis



Granulomatosis with Polyangiitis (Wegener's)

A systemic vasculitis that affects the lungs, kidneys, and upper respiratory tract.

Oral Hallmark: "Strawberry Gingivitis"—the gingiva appears erythematous, granular, and hyperplastic, resembling the surface of a strawberry.

**IV. Clinical Summary**

Condition	Key Pathological Feature	Clinical/Dental Concern
Atherosclerosis	Intimal plaques (atheromas)	Bleeding risk due to blood thinners.
Benign HTN	Hyaline arteriolosclerosis	Gingival overgrowth from CCB drugs.
Malignant HTN	Hyperplastic (onion-skin) thickening	Avoid high doses of Epinephrine.
Temporal Arteritis	Granulomatous inflammation	Jaw claudication (must differentiate from TMJD).
Wegener's	Systemic granulomatous vasculitis	Strawberry gingivitis.