

CALCIFIC UREMIC ARTERIOLOPATHY

[CALCIPHYLAXIS]



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INTRODUCTION



- Characterized by **painful skin lesions** caused by cutaneous **arteriolar calcification** leading to tissue ischemia and infarction.
- Calcification of the **medial layer** of arterioles and small arteries.
- Calciphylaxis has a **poor prognosis** with 1-year mortality rates between 45% and 80%.
- Response to treatment is also poor – **infection** the leading cause of death.
- Incidence of calciphylaxis in dialysis patients ranges from **0.04% to 4%.**

RISK FACTORS

Demographics

Caucasian ethnicity
Female sex

Comorbidities

Kidney disease
Obesity
Diabetes mellitus
Hypoalbuminemia
Autoimmune conditions such as lupus, rheumatoid arthritis, and antiphospholipid antibody syndrome
Liver disease
Malignancy
Dialysis vintage

Medications

Warfarin , Corticosteroids ,
Calcium-based phosphate binders ,
Activated vitamin D
Iron therapy

Abnormalities of the Chronic Kidney Disease-Bone Mineral Disease Axis

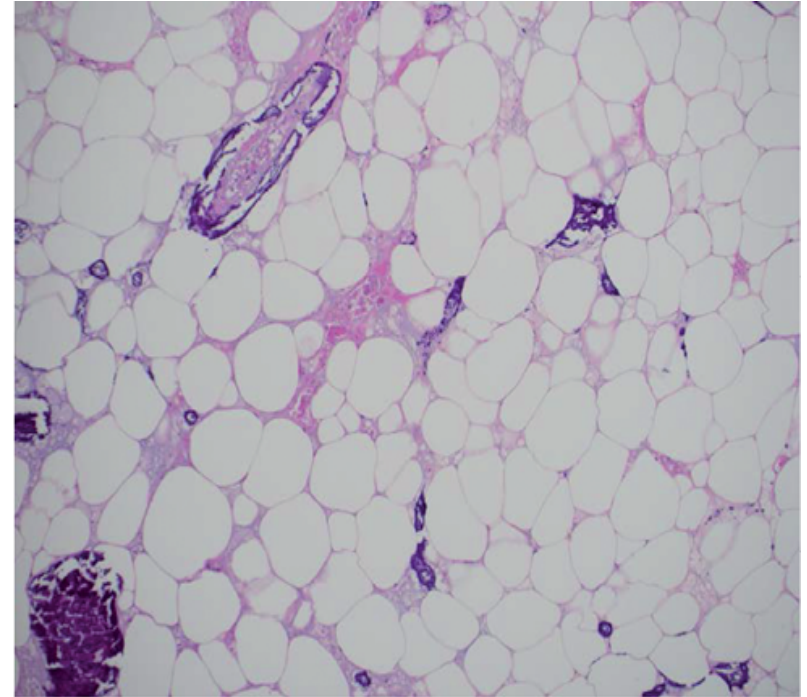
Hyperphosphatemia
Hypercalcemia
Hyperparathyroidism
Adynamic bone disease

Hypercoagulable State

Tissue **trauma** resulting from subcutaneous injections such as insulin

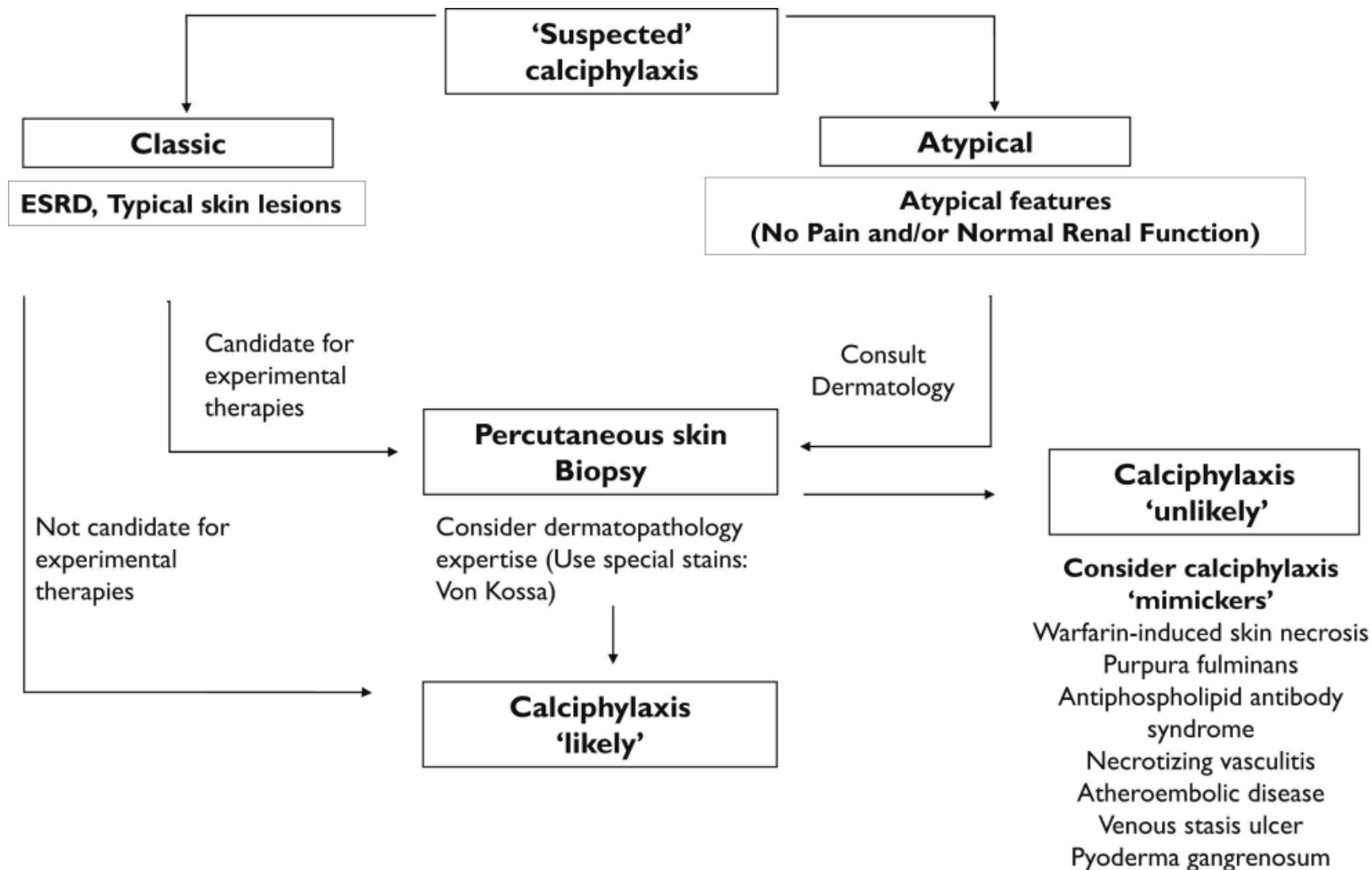


**SKIN
LESION**

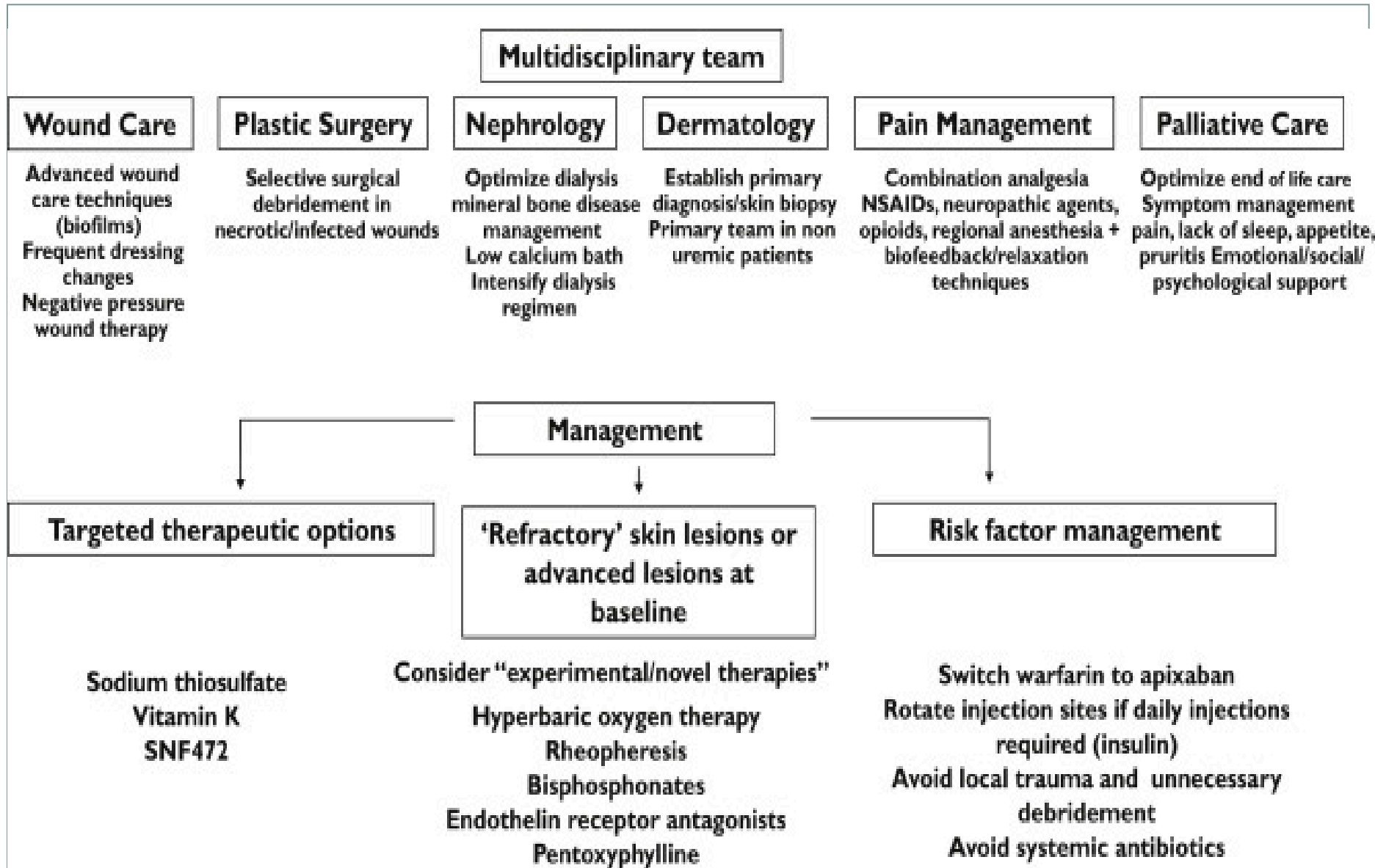


Intraluminal and extravascular calcification, intimal fibrosis of vessel walls, fat necrosis, and vascular thrombosis in subcutaneous tissue of a patient with calciphylaxis.

CALCIPHYL AXIS



APPROACH TO CALCIPHYLAXIS



MANAGEMENT OF CALCIPHYLAXIS

MANAGEMENT



Sodium thiosulfate

- Route and dose -Intravenous (standard): 25 gm if weight > 60 kg; 12.5 gm if weight < 60 kg; infusion in the **last hour** of dialysis.
- Subcutaneous (nonstandard): 0.25 to 0.75 gm (1 to 3 mL of 250 mg/mL); at the **periphery and centre of the lesion**.
- Duration of IV infusion: minimum of **2-3 months**.
- Typical total duration of **6 months** or until lesions completely heal.

Hperbaric oxygen

- Delivery of 100% oxygen at 2.5 times the atmospheric pressure in a sealed chamber for **90 min** [20–30 sessions].