

Calciphylaxis

Calciphylaxis is a rare life-threatening syndrome that leads to calcium deposition in the media of small and medium-sized arteries. The result is ischemia and the development of painful skin lesions. Calciphylaxis most commonly occurs in patients on dialysis for chronic renal failure (uremic calciphylaxis), but also in patients with mildly reduced or normal renal function.

Etiology and risk factors

The pathogenesis of the process remains unclear. Probably, under conditions of uremia and inflammation, there is a disruption of calcium-phosphate metabolism, for example, a decrease of inhibitors of extraskeletal calcification (MGP, Fetuin-A). Although risk factors include such common conditions as chronic renal failure with hyperphosphatemia, renal transplantation, secondary and tertiary hyperparathyroidism, and increased vitamin D intake, the prevalence of calciphylaxis remains low (1-4% of patients with chronic renal failure).

Clinical image

Painful lesions of the character of **livedo reticularis** occur on the skin of the legs, acres, abdomen and hips. In later stages, exulceration and necrosis occur. Calcifications of blood vessels occur not only in the skin but also in other organs; for example, calcifications in lung tissue are a very common.

Differential diagnosis

- Vasculitis
- Pyoderma gangrenosum
- Leg ulcer
- Embolism of atheroma mass

Therapy

Conservative treatment

Quality analgesia, wound care and treatment of sepsis are important. Discontinuation of vitamin D therapy, efforts to reduce calcium and phosphorus level. Treatment of hypercoagulability requires discontinuation of warfarin and switch to LMWH. Antibiotic treatment for exulcerations and inflammation. Intravenous treatment with sodium thiosulphate is effective

Surgical treatment

In extreme cases, surgical treatment of exulcerating wounds is indicated. Patients with secondary or tertiary hyperparathyroidism may benefit from **parathyroidectomy**.

Dietary measures

Aim for adequate nutrient supply. Emphasis should be placed on limiting phosphate in the diet.

Prognosis

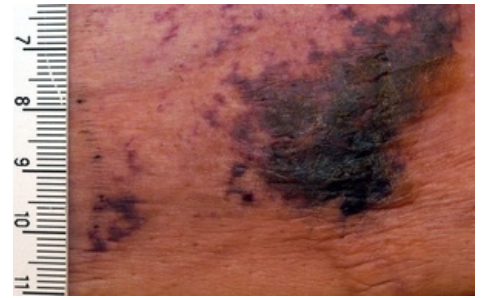
Due to **superinfections** of skin lesions, there is a high risk of progression to sepsis with mortality around 80%.

Links

Related articles

- Haemodialysis
- Kidney transplantation

External links



^[1]Calciphylaxis in the abdomen of a patient with chronic renal failure



Livedo reticularis

References

STEDDON, Simon – CHESSER, Alistair – CUNNINGHAM, John. *Oxford Handbook of Nephrology and Hypertension*. - edition. OUP Oxford, 2014. 944 pp. ISBN 9780191502972.

NIGWEKAR, Sagar U. – KROSHINSKY, Daniela – NAZARIAN, Rosalynn M.. Calciphylaxis: Risk Factors, Diagnosis, and Treatment. *American Journal of Kidney Diseases*. 2015, y. 1, vol. 66, p. 133-146, ISSN 0272-6386. DOI: 10.1053/j.ajkd.2015.01.034 (<http://dx.doi.org/10.1053%2Fj.ajkd.2015.01.034>).

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