

**Short Report***Open Access, Volume 3***Calcific uremic arteriopathy in a young man on intermittent hemodialysis****Farnaz Tavakoli\***; Tayebeh Soleymanian; Fatemeh Yaghoubi; Monir Sadat Hakemi*Tehran University of Medical Sciences, Tehran, Iran.***\*Corresponding Author: Farnaz Tavakoli**

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**Case presentation**

A 42-year-old man with ESKD who has been on intermittent hemodialysis for 7 years, presented with extremely painful inguinal ulcer and abdominal mass. The lesion was developed 2 weeks after repairing aneurysmal cubital AVF. At first, it was a small and painful red nodule but then its size increased and a large ulcer was developed. In addition, the physical examination revealed a palpable and painful large mass at left lower side of abdominal wall. He did not have important risk factors such as diabetes mellitus, treatment with warfarin, and use of calcium containing phosphate binders, vitamin D or calcium supplements. The patient suffered a long standing and severe secondary hyperparathyroidism. The parathyroid hormone level was too high (3100 pg/ml). In addition, serum calcium and phosphorus levels were 9.4 mg/dl and 9.8 mg/dl respectively. The SPECT-CT scan with 99 m Tc-MIBI of parathyroid glands confirmed persistence of an adenoma in right lower parathyroid gland (Figure 1, green arrow). The BMI was 32 kg/m<sup>2</sup>. He had no adherence to use of phosphate binder or calcimimetic drugs. The radiological studies showed extensive microvascular calcifi-

cation in soft tissues (Figure 1, small arrow) and osteitis fibrosa cystica in long bones (Figure 1, star). The patient underwent surgical debridement of ulcer and palpable abdominal mass, wound care, intensive dialysis therapy with low calcium dialysis bath, cinacalcet, sevelamer carbonate, antibiotic and analgesic therapy. The histological sample (H&E, 200X) shows Intramural calcification and obliteration of arteriole (large arrow) with extensive calcification in fat tissue (Figure 1, arrow head) which was consistent with Calcific Uremic Arteriopathy (CUA). In addition to patient's poor compliance to treatment of severe secondary hyperparathyroidism, the recent surgery of aneurysmal AVF could also be an important trigger to development of calcific uremic arteriopathy.

**Discussion**

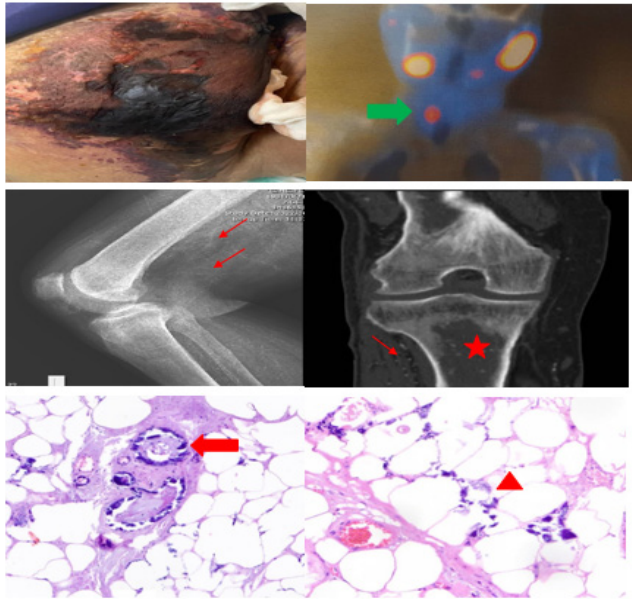
Calcific Uremic Arteriopathy (CUA) is a life-threatening complication which usually develops in patients with End Stage Kidney Disease (ESKD). It's characterized by occlusion and calcification in small arterioles of skin and subcutaneous fatty tissue that causes ischemia, necrosis, and painful skin lesions in abdomen, breasts, legs and thighs. Calcium and phosphorus

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disorders in ESKD patients are always considered as the most important risk factor for the development of CUA. The other risk factors of CUA are female sex, BMI>30 kg/m<sup>2</sup>, hypertension, diabetes mellitus, long term treatment with dialysis, chronic inflammatory state. A multidisciplinary treatment approach includes wound care, pain relief, antibiotics, intensive dialysis therapy with low calcium bath, sodium thiosulfate, correction of serum calcium and phosphate levels may improve this serious situation. The role of surgery and hyperbaric oxygen for tissue necrosis is limited. Early diagnosis and treatment might be successful in selected cases.

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**Figure 1:**