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Perspective Article

Hemodialysis Prompted Amyloid Arthropathy Introducing as Septic Joint Inflammation

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INTRODUCTION

Dialysis-Related Amyloidosis (DRA) is a unique type of amyloidosis affecting patients undergoing long-term hemodialysis. Amyloidosis is defined by the deposition of the insoluble protein β2 Microglobulin (B2M) in a variety of organs however it has high affinity for type 1 collagen and predominantly affects the osteoarticular system. The prevelence of DRA and associated arthropathy increases with the dialysis therapy duration. This prevalence has substantially decreased with the development of new dialysis techniques that enhance the clearance of B2M as well as the development of kidney transplantation. Gemellahaemolysans (G.haemolysans) is a Gram-positive coccus which forms part of the normal flora of the oro-pharynx and the upper respiratory tract found in approximately 30% of healthy adults and rarely causes clinically important infections. It is an opportunistic pathogen reported to infect immunocompromised patients, but it could be observed in healthy people with no known diseases.

We report a rare case of amyloid arthropathy complicating DRA and revelead by a G.haemolysans septic arthritis. Observation A 50-year-old woman with renal failure secondary to type-2 diabetes undergoing dialysis since 15 years. She presented with three weeks acute knee pain with swelling and limited range of motion. Medical history showed several similar episodes of the same knee during the last five years and mechanical joint pain of both hips and shoulders. In clinical examination we found subfebrile state, warm and swollen knee, floating patella, painful popliteal cyst and loss of knee extension. Laboratory findings revealed high level of C-reactive protein (56 mg/L), accelerated sedimentation rate (110 mm/h) and high white cell count. Blood cultures remained sterile and synovial fluid microbiological analysis and culture showed altered isolated G.haemolysans. No evidence of portal of entry for bacteremia was found. X-Ray imaging of the knee showed global tibiofemoral joint space narrowing and soft tissue swelling around the joint with no signs of destruction while x-ray imaging of the pelvis and shoulders showed multiple subchondral cysts of the pelvis, erosions of femoral heads and right humeral head.

DISCUSSION

The arthropathy related to DRA is erosive and progressive and commonly found in the shoulders, knees, and wrists. It could mimic an inflammatory rheumatic condition particulary a seronegative rheumatoid arthritis. The patient has usually a polyarthralgia and the physical examination shows swollen joints with limited range of motion. Mono or oligoarthritis is described and it is in some cases the clinical manifestation may be subtle, subclinical, and only apparent when a tissue biopsy is carried out. Patients under hemodialysis had a higher incidence of septic arthritis comparing to controls with no renal failure which may be partly due to the higher rate of bloodstream infection in these patients. In addition, these patients have many possible aseptic causes for arthritis making early diagnosis difficult. Our patient had a septic arthritis due to unusual bacteria, *G. haemolysans*. *G. haemolysans* is very rarely involved in bone infections, even though probably under reported due to the variable time of growth and the difficulties in characterizing it with traditional methods. To date, only four cases of spondylodiscitis cases of total hip arthroplasty one case of total knee arthroplasty infection and one case of osteomyelitis of the clivus have been reported. To the best of our knowledge this is the first case of septic arthritis due to *G. haemolysans* of a native knee and the first case of septic monoarthritis revealing an associated DRA. This association could be fortuitous and an hematological diffusion from a natural habitat of *G. haemolysans* is suspected since no evidence for a portal of entery was observed. Further studies are needed to investigate the incidence of septic arthritis in patients with long term hemodialysis and to establish guidelines for an early diagnosis of DRA of the musculoskeletal system.

CONCLUSION

Amyloidosis is a common complication of hemodialysis. However the clinical presentation is not specific. Multiple localizations are to be sought even in the absence of clinical signs.

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