Cysts – Osteolysis, Stress Shielding and Management
Mr. Sunil Dhar, MBBS, MS, MCh Orth, FRCS, FRCS Orth
Consultant Orthopaedic Surgeon
Nottingham, UK

Total Ankle Arthroplasty (TAA) with third generation implants is becoming an increasingly predictable, robust procedure for end stage ankle arthritis. Whilst the medium term reports of most modern implants show increasingly satisfactory and similar clinical results, more is being learned about the phenomenon of cyst formation and stress shielding around these implants. In one instance (AES - Ankle Evolutive System: Transystem, France), peri-prosthetic cyst formation has led to the withdrawal of the implant.

Aseptic peri-prosthetic cyst formation in TAA is being increasingly recognized. Little clear evidence exists regarding the evolution of these cysts. Temporally, these can be classified into early onset (within 2 years) and late onset (after 5 years) types. The etiology is wide ranging from polyethylene wear by edge loading (instability or deformity) and edge wear (poor position of implants), stress shielding possibly by stemmed tibial components, inappropriate coating of the implants, increasing constraints on the implant and poor surgical technique. These will be discussed in some detail. The management of such cysts includes supervised neglect if stable or bone grafting or implant revision.