Adionuclide imaging methods are the current imaging modalities in the evaluation of suspected joint replacement infection. $^{99m}$Tc-Human polyclonal immune globulin ($^{99m}$Tc-HIG) is a useful approach to evaluate infection sites. It is widely available in kit form and can be used with simple intravenous injection. This agent accumulates in infectious and inflammatory foci by non-specific extravasations, facilitated by locally enhanced vascular permeability. Unlike monoclonal antibodies, HIG does not induce antibody reactions.
To avoid unnecessary treatment, it is extremely important to distinguish false-positive reasons of 99mTc-HIG scintigraphy properly. False positive uptake may be excluded by careful examination and history of the patients. We present an interesting image of varicose vein, which mimics soft tissue infection on 99mTc-HIG scintigraphy.

A 61-year old woman with painful left knee prosthesis was investigated for differential diagnosis of loosening from prosthesis infection. Diffusely increased uptake surrounding left knee prosthesis was shown on 99mTc HIG\(^{4,5}\) images, suggestive for diagnosis of infection (Figure 1). Furthermore, a focal area of increased uptake was noted below the medial side of right knee at three hours after injection on anterior and right lateral images. Although background and vascular activity were decreased in time, uptake below the right knee became more apparent at 24 hours after injection. Since 99mTc-HIG has higher sensitivity to diagnose infection at 24 hours,\(^6\) we interpreted this finding as a manifestation of soft tissue infection. A superficial varicose vein was shown by Doppler ultrasound\(^7\text{-}^9\) below the right knee, corresponding to the site of focal increased persistent abnormal uptake on the 99mTc-HIG study (Figure 2).

False positive results in 99mTc-HIG images may be obtained in the musculoskeletal conditions such as synovial tumors, Charcot joint, subacromial impingement and adhesive capsulitis.\(^10\text{-}^{11}\) Uptake of 99mTc-HIG was reported in a number of benign and malignant soft tissue tumors such as hemangioma and lymphoma.\(^12\text{-}^{14}\) A malignant histiocytoma of the bone was also reported.\(^15\) In the current images, we conclude that varicose veins can also be misinterpreted as a focus of infection and potentially may cause false positive results in 99mTc-HIG scintigraphy.\(^16\)


