

Paper #211

Positive Leukocyte Scintigraphy Might Be the Only Chance to Diagnose an Infection: Evaluation of 42 Consecutive Patients

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Summary:

Hidden musculoskeletal infection is diagnostic-difficult clinical situation with potentially severe complications and leukocyte-labelled scintigraphy is diagnostic option with the best specificity and sensitivity

Abstract:

Introduction

Musculoskeletal infection is one of the most dangerous complication after orthopaedic surgery. Unfortunately clinical symptoms are often misleading and hidden infection might be easily overlooked. Leukocyte-labelled scintigraphy has specificity and sensitivity in detecting infection exceeding 90%. All other tests (blood tests, bacteriological culturing, clinical symptoms) have dramatically worse diagnostic utility.

Methods

42 patients (mean age 50 y.o., 28 males and 14 females) were included into the study. 10 complained of delayed union/non-union, 8 of post-traumatic arthrosis, 7 had arthrofibrosis, 1 patient had a painful foot with a history of injury with a nail (2 years ahead) and 1 patient had chronic knee synovitis. 36 patients underwent prior surgical treatment and 4 patients had a history of intraarticular injection, 1 neonatal sepsis and 1 a history of a puncture with a dirty nail. Only 30 out of 42 patients had clinical symptoms of infection. Remaining 12 had no clinical symptoms of infection (normal blood test, negative bacteriological culturing, no redness, no leaking through the wound), however in the history they reported some wound healing problems in the past.

Results

In 30 patients we confirmed hidden infection based on leukocyte scintigraphy, among which 6 had no clinical symptoms of it. Moreover 3 of them had no previous surgery, but only injection into the joint. This positive result of scintigraphy drastically changed our approach to their treatment. Without that knowledge we would have probably failed the routine treatment.

Conclusion

If any doubt about the source of non-union, arthrofibrosis or the clinical history of the patient suggest infection in the past - leukocyte scintigraphy is mandatory. It is possible that many of failures might be connected with overlooking of hidden infection.