

Must bone and labeled leukocyte scintigraphy be completely excluded in the diagnosis of periprosthetic joint infection?

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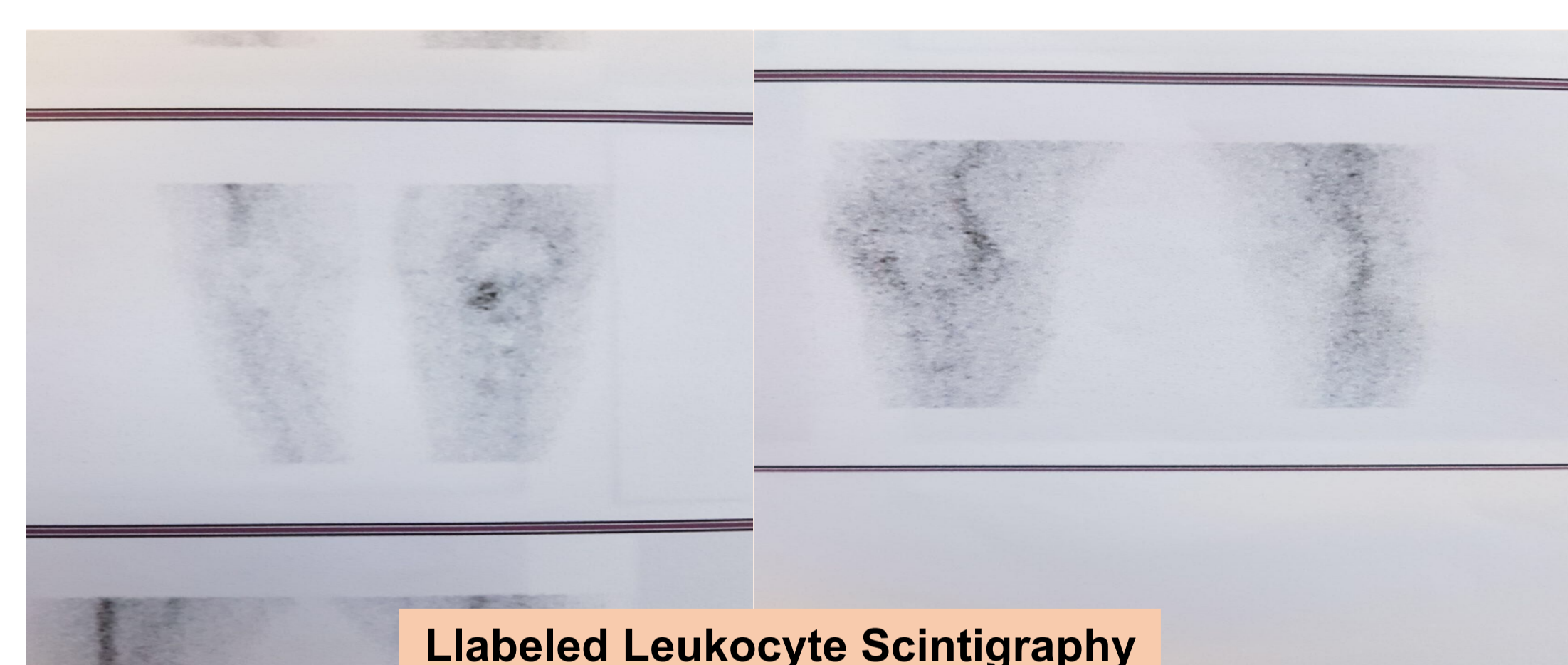
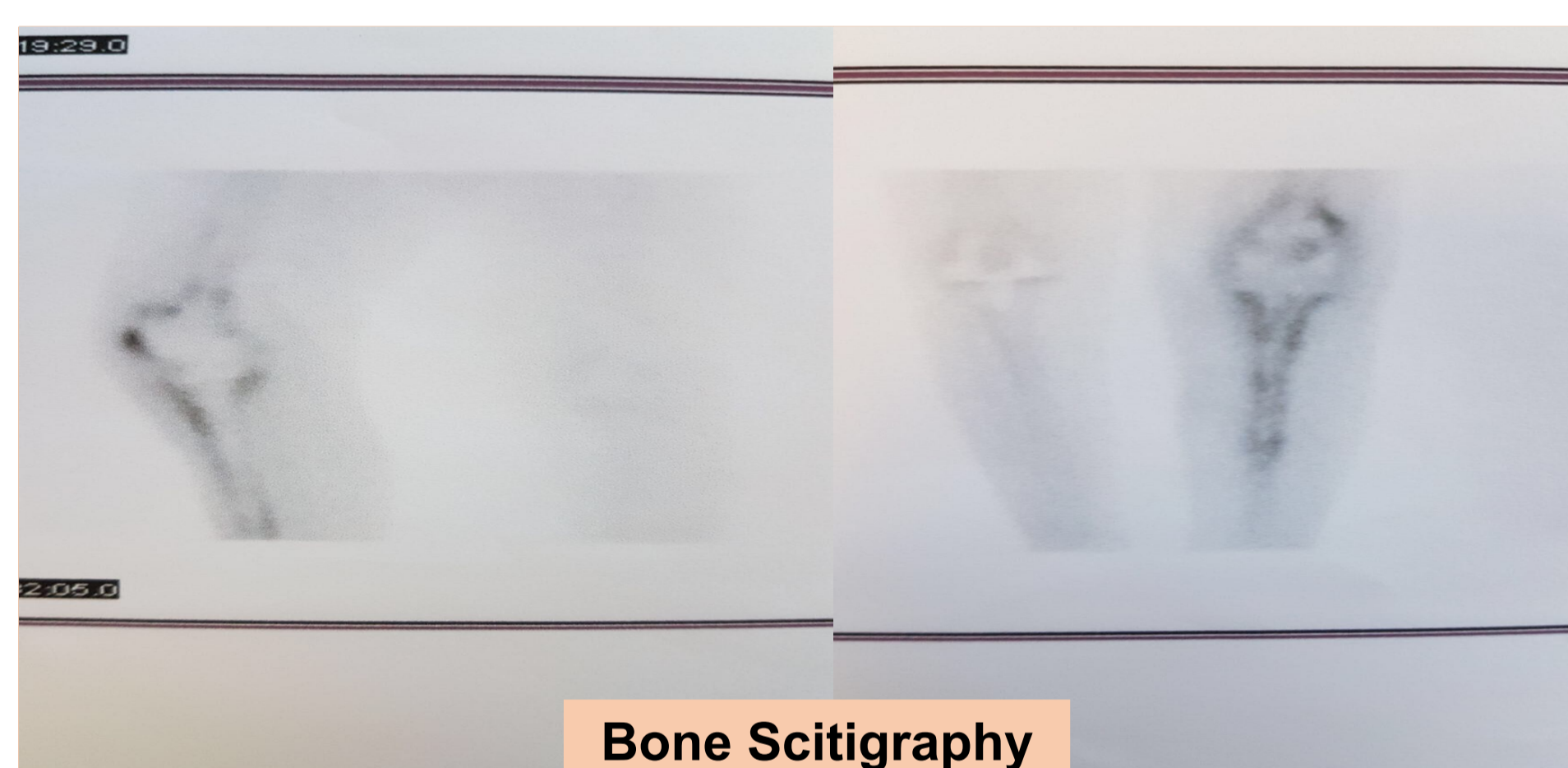
INTRODUCTION

In recent years bone scintigraphy (BS) combined with labeled leukocyte scintigraphy (LLS) has been losing relevance in the diagnostic process of the prosthetic joint infection (PJI). In the Consensus of Philadelphia¹ was not considered as a diagnostic criteria, and appears at a low level in the recommendations of the American Academy of Orthopedic Surgeons². However in our hospital BS and LLS is included in the diagnostic algorithm of painful prosthesis.

The aim of our study was, prior to excluding LLS in the diagnostic process of the PJI, to analyze the profitability of such radiological test. In addition, we analyzed the possible added value of using the bone marrow scintigraphy (BMS) in cases of doubt.

MATERIALS AND METHODS

We retrospectively studied **98** patients who underwent BS combined with LLS for the study of painful arthroplasties (15 hips and 83 knees). The mean age was 74 +/- 2 years. The definitive diagnosis of prosthetic infection was made on the basis of the diagnostic criteria established by the Consensus of Philadelphia¹.



RESULTS

Infection was diagnosed in **17** patients.

	LLS	BMS
Sensitivity	13/16= 81.5	6/7= 0,857
Specificity	79/81= 97,5	8/8= 1
PPV	13/15= 86,6	6/6= 1
NPV	79/82= 96.3	8/9= 0,888

DISCUSSION AND CONCLUSIONS

The evaluation of the images of nuclear medicine is based on the knowledge, experience and interest of a radiologist. For this reason, the sensitivity and specificity reported in previous studies are very variable. In our experience, BS and LLS, have a high sensitivity and specificity in the diagnosis of chronic prosthetic joint infection. In addition, practice of BMS significantly improves its profitability. In our clinical practice, we consider scintigraphic studies as a minor criteria of prosthetic infection. However, the real profitability of these test should take into account the experience of the responsible of scintigraphy evaluation

1. Parvizi J, Gehrke T, Chen AF. Proceedings of the International Consensus on Periprosthetic Joint Infection. Bone Joint J 2013;95-B:1450-1452

2. Parvizi J, Della Valle CJ. AAOS clinical practice guideline: diagnosis and treatment of periprosthetic joint infections of the hip and knee. J Am Acad Orthop Surg 2010;18:771-772..