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Seronegative spondyloarthropathy imaging: Looking at the past, hitting the future

Sir,

Further to the paper by Prakash *et al*. entitled "Seronegative spondyloarthropathy-related sacroiliitis: CT, MRI features and differentials," published in the 2014 September issue of the *Indian Journal of Radiology and Imaging*, we congratulate the authors and wish to make further comments.

The authors report the different CT and MRI features of seronegative spondylarthropathy, and state that conventional radiography is not a useful tool for early disease detection. We do agree that MR is the sole imaging modality permitting to depict bone marrow edema at the first stage of the disease before erosions and sclerosis appear. This belongs to the well-known and major ASAS criteria.[1] However, looking at the past, we assume that conventional radiology still has a place at the early-stage diagnosis. As a matter of fact, digital tomosynthesis is a low-radiation dose imaging means, a numerical revival of "conventional" tomography, which is available on a conventional remote-controlled radiology table. The extensive number of acquisition slices prevents from superimposition of anatomical structures, thus improving detection of tiny lesions such as bone erosions [Figure 1]. Tomosynthesis may, therefore, definitely help in selecting patients requiring MRI examination of the sacroiliac joint to depict subchondral edema according to the ASAS criteria.[2]

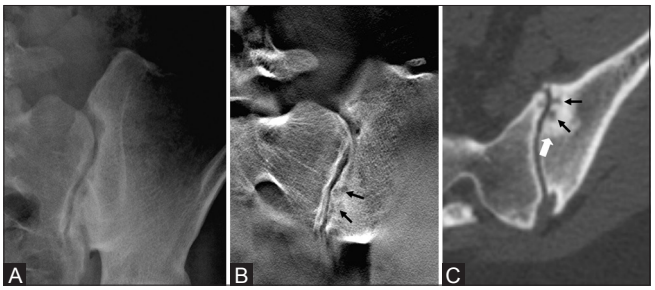

Figure 1(A-C): Standard radiography of the left sacroiliac joint. (A) No bony erosion could be detected (B) Tomosynthesis (coronal plane) and (C) CT scan (axial plane) examination discloses subtle subchondral erosions of the sacroiliac joints (arrows), whereas bone sclerosis (large arrow) is depicted on standard CT scan

Looking at the future, PET scan may become a core diagnosis tool too. Although "standard" 18F-fluorodeoxyglucose [(18F) FDG] tracer may target and image inflammation such as the bone marrow edema areas, [18F] fluoride tracer may highlight osteoblastic activity and bone remodeling in the areas of interest [Figure 2].[3] As bone remodeling is the key point of the "functional imaging" physiopathological process of inflammation that leads to joint ankylosis, [18F] fluoride may better predict the patient's prognosis than the other "morphological" imaging modalities, which do not reflect this dynamic process.

In conclusion, we believe that management of patient with

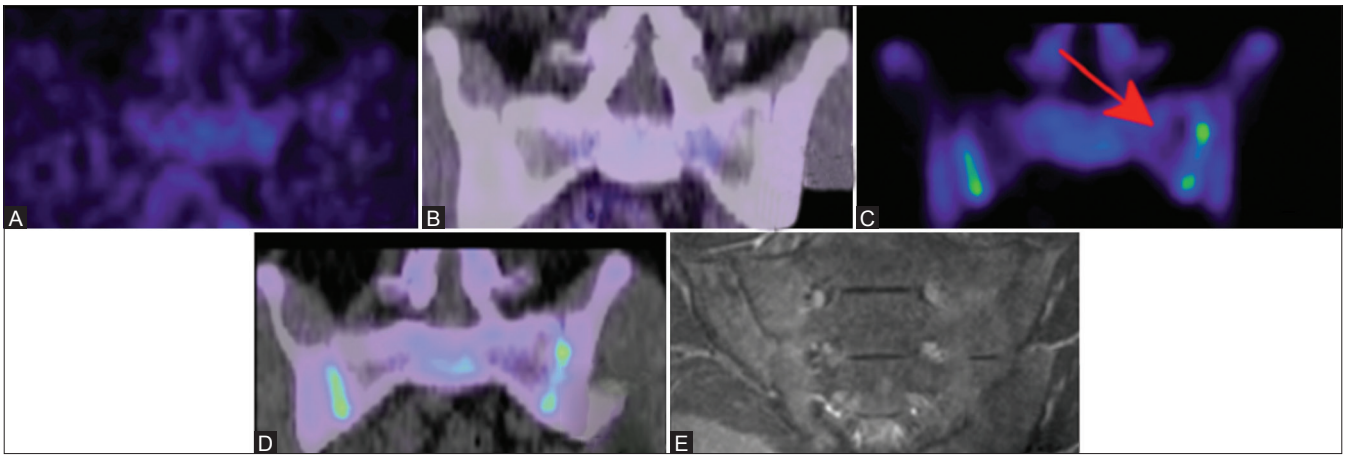

Figure 2 (A-E): Young male patient suspected of sacroiliitis undergoing PET studies (A and B) by using (18F) D-glucose and (18F) fluoride radionuclides (C and D) and MRI (STIR) (E) MRI shows no bone edema and (18F) FDG-PET shows no uptake, while (18F) fluoride-PET scan xamination shows hot spot corresponding to osteoblastic bone remodeling. BioMed Central, Fischer DR, *et al.*[3]

seronegative spondyloarthropathy may be improved by adding both the digital tomosynthesis (leading to prompt early-stage MRI diagnosis) and the positron emission tomography (PET) [18F] fluoride scan (prognostic tool) to the traditional MRI and CT scan imaging means.

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Conflict of interest

There are no conflict of interest.

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References

1. Rudwaleit M, Jurik AG, Hermann KG, Landewé R, van der Heijde D, Baraliakos X, *et al*. Defining active sacroiliitis on magnetic resonance imaging (MRI) for classification of axial spondyloarthritis: A consensual approach by the ASAS/OMERACT MRI group. Ann Rheum Dis 2009;68:1520-7.
2. Lacout A, El Hajjam M, Marcy PY. Tomosynthesis for early diagnosis of sacro-iliitis. Joint Bone Spine 2015;82:63.
3. Bruijnen ST, van der Weijden MA, Klein JP, Hoekstra OS, Boellaard R, van Denderen JC, *et al*. Bone formation rather than inflammation reflects ankylosing spondylitis activity on PET-CT: A pilot study. Arthritis Res Ther 2012;14:R71.

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