Which laboratory parameters are characteristic for nephrogenic systemic fibrosis?

Sir,

With great interest I read the article by Agarwal et al. [1] presenting a systematic review and meta-analysis on gadolinium-based contrast agents and nephrogenic systemic fibrosis (NSF). The authors focused on a literature search in different databases, and identified seven studies that met their inclusion criteria [1]. The characteristics of these studies were listed in a table that showed, besides other parameters, NSF assessment that has been done by clinical examination, skin biopsy and very surprisingly by laboratory data in two studies published by Broome et al. and Collidge et al. [1–3]. Unfortunately, these laboratory data were not further explained in their paper [1].

Although Broome et al. reported on laboratory parameter examination in their cohort of 12 patients, these did not serve as NSF assessment [2]. They found in 3/12 patients antinuclear antibodies, but no hint for anti-Scl 70 or anticientromere antibodies [2]. Therefore, they concluded that the diagnosis of NSF should be confirmed by skin biopsy and should not be based solely on clinical manifestations [2]. The paper did not point to laboratory data that might help to assess the diagnosis.

Collidge et al. presented 14 patients with NSF, and mentioned in their results section that ‘despite skin biopsy not being performed in two patients, the clinical picture based on examination and laboratory tests was considered to be consistent with the diagnosis of NSF . . . ’ [3]. This statement might be the reason why Agarwal et al. included laboratory data as parameters to assess NSF [1]. Although Collidge and co-workers did not report on the laboratory tests, it seems likely that they meant the estimated glomerular filtration rate [3].

In conclusion, NSF is a clinical and histopathological diagnosis, and no single, unique laboratory test establishes the diagnosis [4]. Laboratory tests support the findings of underlying renal insufficiency or accompanying co-morbidities [4], but do not serve as diagnostic biomarkers. In future, it would be very helpful to have such a biomarker, but it is also possible that NSF could lack characteristic laboratory findings.

Conflict of interest statement. None declared.

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doi: 10.1093/ndt/gfp147

Advance Access publication 8 April 2009

Reply

Sir,

We appreciate the insightful letter by Dr Boehm in response to our systematic review and meta-analysis on the association between gadolinium-based contrast agents and nephrogenic systemic fibrosis (NSF) [1]. As Dr Boehm suggests, the diagnosis of NSF in the studies by Broome et al. [2] and Collidge et al. [3] was confirmed by skin biopsy in most patients. In our systematic review, we listed all diagnostic methods reported by the original authors as being used to arrive at a diagnosis of NSF. Broome et al. used laboratory data to confirm the absence of progressive systemic sclerosis (e.g. negative anti-Scl 70 antibodies) [2]. Collidge et al. did not explain how laboratory data were utilized. Presumably, laboratory data were used to exclude other...