MRI and ultrasonography are useful tools for a non-invasive diagnosis of IgG4-related disease

We read with much interest the 2019 classification criteria for IgG4-related disease by the American College of Rheumatology and the European League Against Rheumatism.¹

This new classification driven by scientific evidence and research provides a substantial amount of new information, which will considerably improve the identification and management of patients with IgG4-related disease.

Despite the fact that radiology is integrated into the diagnostic criteria, only CT and/or positron emission tomography-CT are mentioned. We humbly suggest that the use of ultrasonography and/or MRI is missing. MRI is considered to be a relevant tool for diagnosing IgG4-related disease in the majority of organs included in the entry criteria such as the pancreas, bile ducts, orbits, lacrimal glands, major salivary glands, pachymeninges or thyroid gland.^{2–3} Its diagnostic accuracy is superior to that of CT and/or PET-CT for almost all organs, especially when imaging head and neck, orbital or brain IgG4-related disease. For example, detecting pachymeningitis with CT is challenging, whereas MRI is very sensitive.⁴ Moreover, MRI has proved to have high specificity to diagnose IgG4-related ophthalmic disease, in front of an enlargement of the infraorbital nerve.^{5–6} Advanced MRI techniques such as diffusion-weighted imaging, have excellent accuracy in distinguishing IgG4-ROD from lymphoma.⁷ Similarly, ultrasonography has been reported to easily detect changes in major salivary glands affected by IgG4-related diseases, even for inexperienced observers.⁸

One of the major points of the 2019 classification criteria for IgG4-related disease is that a positive diagnostic of IgG4-related disease can be achieved without invasive, tissue-based pathological confirmation. The update implies that non-invasive techniques such as imaging should have the best accuracy possible. CT and PET-CT have excellent sensitivity to detect lesions compatible with IgG4-related disease. However, MRI and ultrasonography have an even higher specificity in most organs. Moreover, MRI and ultrasonography are non-radiating techniques as opposed to CT and PET-CT.

Therefore, we believe that MRI and ultrasonography should be mentioned as first-line radiological examination choices in patients with a suspected diagnosis of IgG4-RD, especially for the head and neck and brain.

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REFERENCES

- Wallace ZS, Naden RP, Chari S, et al. The 2019 American College of Rheumatology/ European League against rheumatism classification criteria for IgG4-related disease. *Ann Rheum Dis* 2020;79:77–87.
- Swensson J, Tirkes T, Tann M, et al. Differentiating IgG4-related sclerosing cholangiopathy from cholangiocarcinoma using CT and MRI: experience from a tertiary referring center. *Abdom Radiol* 2019;44:2111–5.
- Lee S, Kim JH, Kim SY, et al. Comparison of diagnostic performance between CT and MRI in differentiating non-diffuse-type autoimmune pancreatitis from pancreatic ductal adenocarcinoma. *Eur Radiol* 2018;28:5267–74.
- Mageau A, Shor N, Fissel M, et al. Rituximab for corticosteroid-resistant relapsing IgG4-related intracranial pachymeningitis: report of two cases. *Pract Neurol* 2018;18:159–61.
- Soussan JB, Deschamps R, Sadik JC, et al. Infraorbital nerve involvement on magnetic resonance imaging in European patients with IgG4-related ophthalmic disease: a specific sign. *Eur Radiol* 2017;27:1335–43.
- Lecler A, Zmuda M, Deschamps R. Infraorbital nerve involvement on magnetic resonance imaging in IgG4-related ophthalmic disease: a highly suggestive sign. *Ophthalmology* 2018;125:577.
- Hiwatashi A, Yoshiura T, Togao O, et al. Diffusivity of intraorbital lymphoma vs. IgG4-related disease: 3D turbo field echo with diffusion-sensitised driven-equilibrium preparation technique. *Eur Radiol* 2014;24:581–6.
- Shimizu M, Okamura K, Kise Y, et al. Effectiveness of imaging modalities for screening IgG4-related dacryoadenitis and sialadenitis (Mikulicz's disease) and for differentiating it from Sjögren's syndrome (SS), with an emphasis on sonography. *Arthritis Res Ther* 2015;17:223.