

Letter to the editor regarding the article “Magnetic resonance imaging features of uterine sarcoma and mimickers”

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Dear Editor,

We read with great interest the well-written article on magnetic resonance imaging features of uterine sarcoma and their mimickers by Barral et al. [1] published in the February 2017 issue of the *Abdominal Radiology*. Authors have reviewed and highlighted the imaging spectrum of uterine sarcoma and numerous mimickers of uterine malignant soft tissue tumors. And thus, they have emphasized that essential imaging illustrations made them simpler to recall. We really appreciate the efforts of the authors. Nevertheless, the authors have stated that enhancement at 60 s after intravenous administration of gadolinium chelates is observed in leiomyosarcomas (LMS) but absent in the majority of “benign leiomyomas,” according to the study of Goto et al. [2]. Readers of the article might get the impression that leiomyomas including cellular types could be differentiated from LMS with great accuracy using dynamic enhanced MRI examination, which may not be true.

Goto et al. [2] reported that dynamic enhanced MRI could be beneficial in making a differential diagnosis of hypervascular LMS from hypovascular degenerated leiomyomas. In their study, four false-positive cases with dynamic enhanced MRI included two cases of cellular leiomyoma. Cellular leiomyoma revealed contrast enhancement on dynamic enhanced MRI with increased serum LDH levels. Cellular leiomyomas were the most common candidates for the false-positive results. Thus, it could be emphasized that leiomyomas with increased cellularity or vascularity could not be differentiated from LMS accurately on dynamic enhanced MRI.

Cellular leiomyoma is one of the specific subtypes of benign leiomyoma and must be distinguished from LMS. Cellular leiomyoma does not differ clinically or macroscopically from other leiomyomas, although the cellularity is significantly higher than the adjacent myometrium. On imaging, LMS appears as a large heterogeneous mass distorting the uterine architecture that contains necrotic and hemorrhagic areas. Substantial overlap is seen in the MRI morphology, signal intensity, and enhancement patterns of LMS and cellular leiomyomas. On MRI, cellular leiomyoma exhibits high signal intensity at T2-weighted images and notable contrast enhancement in the early phase of dynamic enhanced MRI such as LMS [3].

We assume that Barral et al. [1] wanted to state that hypovascular “degenerated” leiomyomas could be distinguished from LMS on dynamic enhanced MRI. The interpretation and statement made by authors misguide the reader to a false concept as if all leiomyomas could be differentiated from LMS according to their different enhancement characters. We think it would be appropriate if the relevant part of the paper is revised.

Compliance with ethical standards

Conflict of interest All authors of this manuscript Kerem Ozturk, Mehmet Aral Atalay, Gursel Savci declare that they have no conflict of interest.

Ethical standards All procedures performed were in accordance with the ethical standards of the institutional research committee and with the 1983 revised Helsinki declaration and its later amendments or comparable ethical standards.

Research involving human and animal rights This article does not contain any studies with human participants or animals performed by any of the authors.

References

1. Barral M, Place V, Dautry R, et al. (2017) Magnetic resonance imaging features of uterine sarcoma and mimickers. *Abdom Radiol (NY)* 42:1762–1772
2. Goto A, Takeuchi S, Sugimura K, Maruo T (2002) Usefulness of Gd-DTPA contrast-enhanced dynamic MRI and serum determination of LDH and its isozymes in the differential diagnosis of leiomyosarcoma from degenerated leiomyoma of the uterus. *Int J Gynecol Cancer* 12:354–361
3. Yamashita Y, Torashima M, Takahashi M, et al. (1993) Hyperintense uterine leiomyoma at T2-weighted MR imaging: differentiation with dynamic enhanced MR imaging and clinical implications. *Radiology* 189:721–725