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CLASSICS IN ABDOMINAL RADIOLOGY

The "zebra spleen"

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"Zebra spleen" is a radiological sign used to describe the normal pattern of splenic enhancement occurring during the arterial phase of CT and MRI studies enhanced with intravenously injection of contrast material [1]. It refers to the presence of a transient archiform heterogeneity with alternating bands of high and low attenuation, scattered throughout the splenic parenchyma (Fig. 1), resembling the stripes of a zebra (Fig. 2) [2]. In absence of pathology, a homogeneous attenuation pattern of the spleen is depicted on CT an MR images during portal venous or delayed phase. Other transient patterns of heterogeneous splenic enhancement include focal heterogeneity (defined by the presence of a focal region of low attenuation) and diffuse heterogeneity (defined by the presence of diffuse, mottled attenuation) [1].

Histologically, the zebra spleen may be explained by the presence of different vascular pathways and flow rates through the cords of red (which enhances early) and white pulp (which enhances later) [3]. The different pattern of splenic enhancement depends on variables such as injection rate, age, and splenomegaly [1].

A zebra pattern can also be depicted on baseline ultrasound examination of spleen with high-frequency transducer in children with no underlying splenic abnormalities, as alternating hypoechoic bands. It is thought to reflect the difference in structural components of splenic parenchyma [2].

Zebra spleen must be recognized as a normal imaging finding of no clinical significance. Differential diagnosis of inhomogeneous splenic enhancement includes splenic trauma and splenic infarct [4].

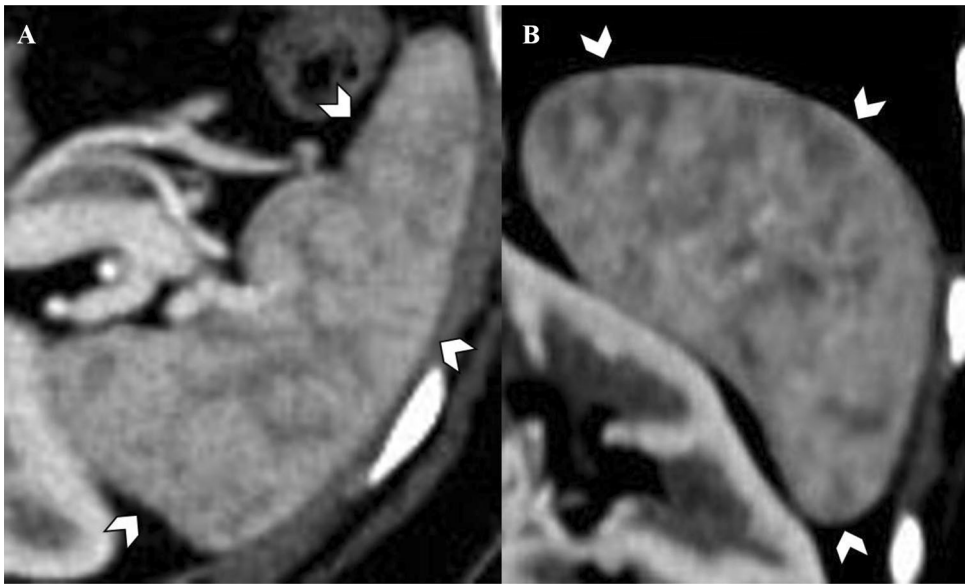

Fig. 1 Axial (**a**) and coronal-reformatted (**b**) CT images, obtained 23 s after initiation of intravenous contrast material injection, in a 38-year-old woman, depict the archiform pattern of heterogeneous enhancement of the spleen, with stripes of alternating high and low attenuation (arrowheads), which resemble the characteristic color pattern of a zebra's coat

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Fig. 2 A group of zebras. Public domain image (https://pixabay.com/it/zebra-safari-natura-savana-africa-3044577/). Accessed 02/10/2018

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interests.

Research involving human participants and/or animals This article does not contain any studies with human participants or animals performed by the author.

Informed consent Statement of informed consent was not applicable since the manuscript does not contain any patient data.

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