USG artifacts- Now you see it, now you don’t!!

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Ultrasound imaging artifacts are any part of an image that does not accurately represent the anatomic structures present within the subject being evaluated. In ultrasonography, artifacts can be a structure which appear in an image that are not present anatomically or a structure that is present anatomically but may be missing from the image or structures that is present but incorrect in location, size, or brightness. These artifacts arise secondary due to ultrasound beam characteristics, the presence of multiple echo paths, velocity errors, and attenuation errors.

Classification of artifacts:
- Attenuation artifact
  - Acoustic shadowing
  - Acoustic enhancement
  - Edge shadowing
- Depth of origin artifact
  - Reverberation
  - Comet tail
  - Ring down
  - Range ambiguity
- Beam dimension artifact
  - Beam width
  - Side lobe
  - Grating lobe
- Beam path artifact
  - Refraction
  - Mirror
- Equipment artifact
  - Contact
  - Movement

Artifacts are common problem in ultrasound in day to day practice. Differentiating real findings and artifacts is most important. A good understanding of the physical principles of ultrasound waves, equipment and their interaction with anatomy being examined is essential in distinguishing reality, normal variants and artifacts.

Biography

Dave Kruti D has completed her MBBS studies and Diploma in Radio-diagnosis studies from D.Y. Patil University. She is currently working as a Consultant Radiologist at Jivraj Mehta Hospital, Samved Hospital and AIMS Hospital at Ahmadabad, Gujarat, in India. She has published more than 10 posters, including the recent one at European Congress of Radiology 2015 and 2 papers in reputed journals.

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