The Shoulder Sign of Pyloric Stenosis

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Clinical Image

The antro-pyloric shoulder sign is a consistent direct sign found on imaging when diagnosing hypertrophic pyloric stenosis. Hypertrophic pyloric stenosis is a very common pathology in infants, responsible for characteristic vomiting. It is defined as a progressive thickening of the muscle fibers of the pylorus leading to an obstruction to gastric emptying. This hypertrophy involves a well-defined anatomical area, which extends from the terminal portion of the gastric antrum to the duodenum. Abdominal ultrasound is the reference examination and makes it possible to confirm the clinically suspected diagnosis, thanks to morphological and dynamic criteria, namely: gastric stasis, thickening of the antro-pyloric muscle (greater than 3 mm) of variable echostructure, the antro-pyloric thickness disparity (over a length greater than 15 mm), the overall diameter of the pyloric olive (thick hypoechoic ring around a hyperechoic center) greater than 12 mm, the fixity of the image and the sign of the shoulder which is the gently sloping connection of the pyloric muscle with the antrum (Figure 1).

Keywords: Pyloric stenosis; Abdominal ultrasound; Gastric stasis

Declaration of Interests

The authors declare that they have no competing interests.

Figure 1: Thickening of the antropyloric muscularis measuring 5.7 mm over a length of 16.4 mm responsible for a stenosis of the pyloric lumen with a gently sloping connection of the pyloric muscle to the antrum (sign of the shoulder) and stasis stomach upstream.

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