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Case Report

Three-dimensional computed tomography rendering of pedunculated colon polyp: new "clapper-bell" sign pedunculated polyp at 3D computed tomography

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ABSTRACT

The incidental detection of a tubulovillous adenoma at a contrast-enhanced computed tomography (CECT) with nondedicated protocol, performed in emergency conditions, is an uncommon finding. We report a case of a woman presenting with a subocclusive episode. A CECT scan was performed, and a pedunculated polyp could be appreciated at 3D-reconstruction images. A particular depiction of pedunculus of the polypoid lesion, resemble a clapper-bell, could help to define the vegetating lesion at the volume-rendering reconstruction images. This case emphasizes the fundamental role of postprocessing in the clinical practice to improve the diagnostic accuracy of abdominal CT scan. In addition, a potential new radiologic sign, the "clapper-bell sign", is proposed, as literature about the appearance of a polyp at CECT, performed without a dedicated protocol for colonoscopy, is poor.

Introduction

Colorectal cancer (CRC) is a common malignancy that results in significant morbidity and mortality. It is widely demonstrated that it arises from a premalignant lesion, adenoma, after a series of specific genetic transformations. Consequently, early detection and eventual removal of that lesions results in a reduction in incidence of CRC. The role of colonoscopy in identifying colonic premalignant lesions is largely documented. Over the last decades has also emerged the role of computed tomography (CT) with the application of specific protocols as a potential screening technique. CT scan without dedicated protocols is not accurate enough for this aim. Therefore, there are not recent systematic studies describing specific characteristics of adenomas at CT images but only few

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case reports. We present a case of a tubulovillous adenoma of the descending colon depicted at a CT scan performed in emergency conditions and therefore without adequate colon preparation. It was possible to suggest a diagnosis thanks to volume-rendering (VR) reconstruction images, which to date are essential in the clinical practice. In addition, it is proposed a new "clapper-bell" sign, referring to the particular shape of polyps with long stalks, as the one that we detected, which could help in recognizing this kind of lesions.

Case report

A 50-year-old woman referred to our emergency department with a clinical picture of subocclusive episode and complaining of recurrent abdominal pain over the last 6 months. No significant finding was observed at first-line ultrasonography. A contrast-enhanced CT (CECT) was then performed to assess the presence of a mechanic obstructing ileus and to investigate the cause of it. Tomographic images showed pathologic distension of small bowel and colon loops up to the descending part, where it was noticed a wide-vegetating soft-tissue mass narrowing the lumen. After intravenous (IV) administration of iodinated-contrast material, the lesion showed dishomogeneous but strong enhancement, particularly at the level of a central axis measuring about 6.5 cm in length (Fig. 1). At VR reconstructions (Fig. 2), maximum intensity projections and multiplanar reconstructions images, it was possible to demonstrate the presence of a polypoid

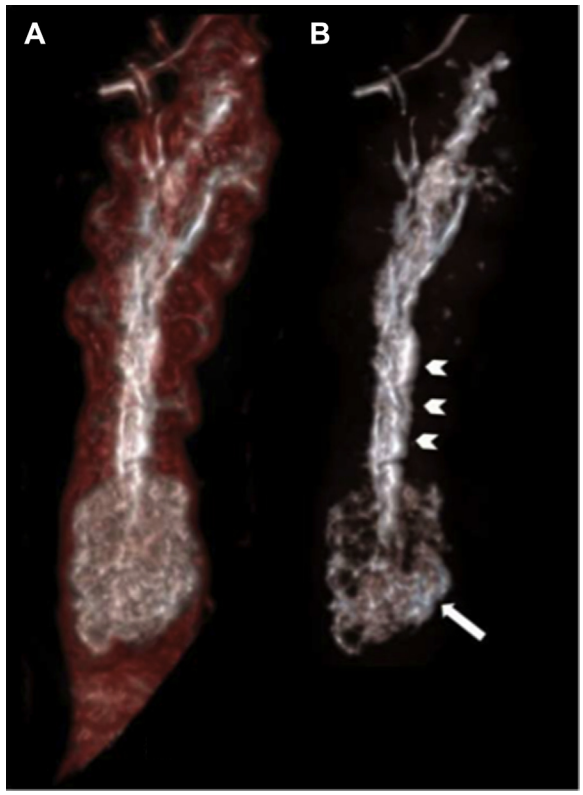

Fig. 2 – CT VR reconstruction of polypoid lesion (A, with colonic wall and B, without colonic wall) shows a large "head" (arrow) and a long stalk (arrowhead) like a clapper-bell.

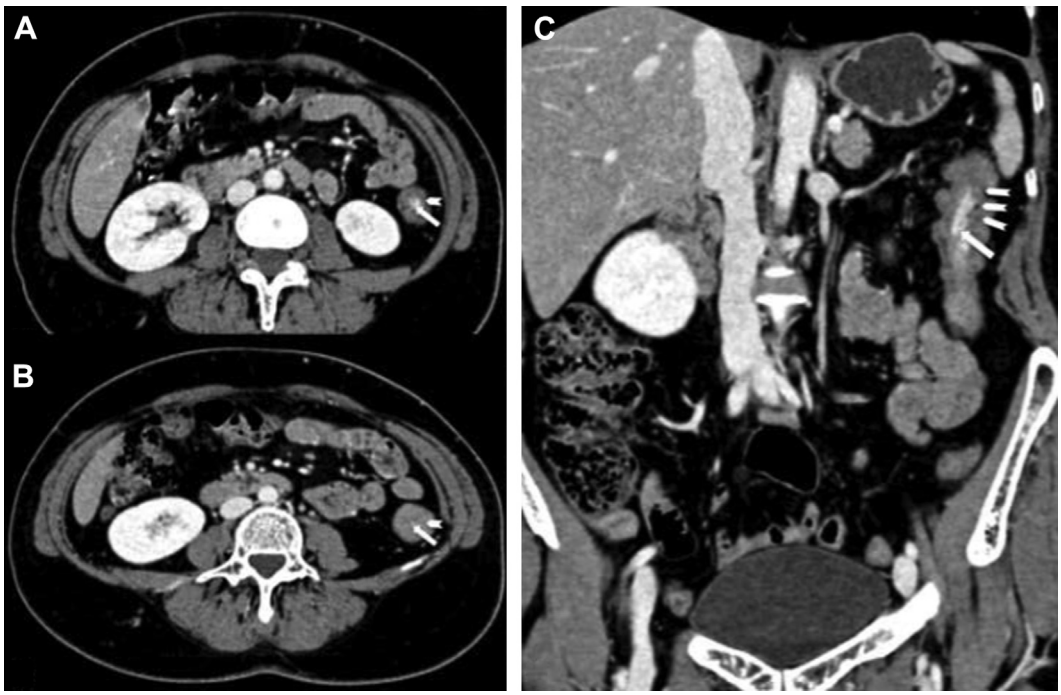

Fig. 1 – (A, B, C) Axial (A, B) and coronal (C) CT images, portal phase, reveal a vegetating solid mass lesion arising from the colonic wall and protruding into the lumen at the level of descending colon, which results in narrowing (arrowhead). The huge lesion shows rich enhancement of the central stalk (arrow).