CASE REPORT

Hidden papilla and periampullary diverticulum: Curtain up for stacked folds

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Abstract

Proper identification of the Vaterian papilla is a vital prerequisite for success in endoscopic retrograde cholangiopancreatography. Overall, a “hidden papilla” situation is uncommon, often attributable to, for example, intradiverticular localizations in a setting of periampullary diverticulum. Stacked duodenal folds precluding proper endoscopic visualization of the papilla is less well discussed, with virtually no systematic data available. A concurrent presence of the former potential obstacles to an immediate recognition of the papilla has not been reported before. With a view of the sometimes challenging task of finding (and cannulating) a periampullary diverticulum-related papilla, suggestions are made to first scrutinize curtaining duodenal folds, for example, by endoscopic probing with an endoscopic retrograde cholangiopancreatography catheter as this may represent a more easily remediable cause underlying a “hidden papilla.”

Introduction

Reliable identification of the papilla of Vater is a sine qua non for the successful performance of endoscopic retrograde cholangiopancreatography (ERCP). There is a variety of potential causes underlying a “hidden papilla” situation, mostly in an endoscopic context of periampullary diverticulum, particularly in intradiverticular localizations.1,2 In such a complex anatomic setting, mere endoscopic appreciation of the papilla and/or cannulation of the desired duct might prove extremely cumbersome and technically demanding, rarely necessitating rescue approaches. These may include, for example, cap-assistance techniques, double-lumen, and/or ultra-slim endoscopic technologies.3,4

Other more uncommon factors may relate to periampullary lipomas (or other tumors) as well as stacked duodenal folds with or without edema or, as recently published, rare instances such as intradiverticular papillary invagination.3 Among these, stacked duodenal folds are repeatedly encountered in clinical practice but—potentially due to its innocuous nature—are rarely discussed, and to the best of my knowledge, no clear-cut data derived from systematic study on this issue are available in the literature. The coincidence of periampullary diverticulum and stacked duodenal folds curtaining the duodenoscopic view of the papilla of Vater has not yet been reported in the literature and may have implications in the endoscopic strategy and in prioritizing the sequential search for a “hidden papilla.”

Clinical case

A 49-year-old female patient underwent ERCP 5 days after an emergency cholecystectomy due to gallbladder empyema. Laboratory findings were consistent with acute cholangitis given markedly elevated cholestasis and systemic inflammatory parameters, while abdominal ultrasound indicated intra- and extrabiliary biliary dilation. Under combined sedation using propofol and midazolam, the duodenoscope was advanced to the descending duodenum (D2) and shortened adequately. Figure 1a illustrates a duodenoscopic view of the medial aspects of D2 demonstrating a “hidden papilla” situation with a small periampullary diverticulum (PAD) and an adjacent bulk of stacked duodenal folds. Despite the presence of a PAD, manipulation with a standard ERCP catheter amidst the stack of folds was started, since the diverticulum was felt, albeit at the time unproven, to be somewhat more proximal to where the papilla typically localizes during ERCP. This promptly succeeded in unequivocal identification of the papilla (Fig. 1b). After switching to a guidewire preloaded triple-lumen papillotome as our standard first choice for naïve papillae, deep biliary cannulation and access was achieved easily in a standard fashion. ERCP confirmed prepllarary stone impaction, which could be resolved and extracted after standard-size papillotomy. Furthermore, bile leakage could be excluded, and the intervention was terminated.

Discussion

A “hidden papilla” situation is a not so uncommon occurrence when performing ERCP procedures, particularly in the presence of a PAD. This is the first report of stacked duodenal folds in the setting of PAD.

Given the virtual lack of literature discussing curtaining folds precluding endoscopic visualization of the orifice of the
papilla, we may only be able to tentatively speculate about their nature and causes. In situations comparable to that illustrated here without any hints of significant mucosal inflammatory and/or edematous changes, bland variant anatomy with abundance of duodenal folds or, more likely, locally altered gastrointestinal motility may potentially underlie this phenomenon. In the same line, in celiac disease (CD), for which no other endoscopic, clinical, or whatsoever features were present, more widespread and generalized stacking of circular folds may occasionally be detected reflecting advanced villous atrophy.

Coming back to ERCP tactics in a PAD with stacked folds setting, it has to be stressed again that identification of the papilla within a PAD may occasionally represent a lengthy and challenging venture to embark on. Against this background, prioritization of first clarifying a potential papilla localization within stacked duodenal folds is, although not evidence-based, suggested before scrutinizing the PAD itself. In case endoscopic probing between folds with a cannula may not adequately expose the interfold mucosa, increases in gas insufflation and, thus, luminal distension, as well as administration of motility-relaxing substances such as glucagon or buscopan, are considered to represent reasonable next steps to detect or exclude a papilla in-between folds. In the presented clinical case, there was no need to perform special maneuvers, such as clip assistance or a “two-devices-in-one-channel” approach, to permanently keep folds out of the endoscopic field of view and action. Of interest, these latter mentioned techniques have in fact all been introduced for difficult cannulation in PAD-related scenarios.

Considered together, as is illustrated here, beyond intraduodenal papilla localization, more easily and straightforward-to-resolve factors should be considered and addressed in a target-oriented fashion when confronted with an uncommon confluence of PAD and curtaining duodenal folds.

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