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Opinion

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Close Center Tight Band Imaging Order of Villous Decay in Presumed Celiac Infection: Advancement and Global Approval

Matthew J. Kraeutler*

Department of Orthopedic Surgery, St Joseph's University Medical Center, Paterson, New Jersey, U.S.A.

***Corresponding author:** Matthew J. Kraeutler, Department of orthopedic Surgery, St Joseph's University Medical Center, Paterson, New Jersey, U.S.A; E-mail: mattjkraeutler@gmail.com

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Introduction

There are no agreed-on endoscopic signs for the diagnosis of Villous Atrophy (VA) in Celiac Disease (CD), necessitating biopsy sampling for diagnosis. Here we evaluated the role of Near Focus-Narrow Band Imaging (NF-NBI) for the assessment of villous architecture in suspected CD with the development and further validation of a novel NF-NBI classification. Patients with a clinical indication for duodenal biopsy sampling were prospectively recruited. Six paired NF White-Light Endoscopy (NF-WLE) and NF-NBI images with matched duodenal biopsy sampling including the bulb were obtained from each patient. Histopathology grading used the Marsh-Oberhuber classification. A modified Delphi process was performed on 498 images and video recordings by 3 endoscopists to define NF-NBI classifiers, resulting in a 3-descriptor classification: villous shape, vascularity, and crypt phenotype. Thirteen blinded endoscopists (5 experts, 8 non-experts) then undertook a short training module on the proposed classification and evaluated paired NF-WLE–NF-NBI images. One hundred consecutive patients were enrolled (97 completed the study; 66 women; mean age, 51.2 ± 17.3 years). Thirteen endoscopists evaluated 50 paired NF-WLE and NF-NBI images each (24 biopsy-proven VAs). Inter-observer agreement among all validators for the diagnosis of villous morphology using the NF-NBI classification was substantial (κ=0.71) and moderate (κ=0.46) with NF-WLE. Substantial agreement was observed between all 3 NF-NBI classification descriptors and histology (weighted κ=0.72-0.75) compared with NF-WLE to histology (κ=0.34). A higher degree of confidence using NF-NBI was observed when assessing the duodenal bulb. Patient preference for a healthcare professional is mediated by physician gender. The primary aim of this study was to assess gender preference for an endoscopist in a cohort of Muslim patients. The secondary aim was to identify factors that influence gender preference.

This was a multicenter cross-sectional study conducted at 3 tertiary care hospitals in Pakistan. Consecutive patients scheduled for elective outpatient upper endoscopy or colonoscopy was asked to complete a questionnaire immediately before and after the procedure. Data collected included patient demographics, occupation, education level, procedure type, gender preference, and reason for preference. A total of 1078 patients completed the questionnaire (age 43.5 ± 15.8 years; 53.2% men). Upper endoscopy was the most frequent procedure, performed in 84% of patients. Gender preference was expressed by 707 patients (65.6%), of which 511 (72.3%) were willing to wait for an average of 7 days for an endoscopist of the preferred gender. Male patients' preferences (45.1% male endoscopist, 17.1% female endoscopist, 37.8% no preference) differed from female participants' (16.9% male endoscopist, 52.6% female endoscopist, and 30.5% no preference; P<0.00001). No education was associated with having a gender preference (odds ratio, 0.55; 95% confidence interval, 0.37-0.81; P=0.003). Reasons for gender preference included religious values and family pressure, which were more frequently expressed by women (P<0.0001). Most Muslims in Pakistan expressed a gender preference, and both female and male patients showed a preference for a same-gender endoscopist. No education was associated with having a gender preference. Gene therapy could provide curative therapies to many inherited monogenic liver diseases. Clinical trials have largely focused on Adeno-Associated Viruses (AAVs) for liver gene delivery. These vectors, however, are limited by small packaging size, capsid immune responses, and inability to redoes. As an alternative, non-viral, hydrodynamic injection through vascular routes can successfully deliver plasmid DNA (pDNA) into mouse liver but has achieved limited success in large animal models. We explored hydrodynamic delivery of pDNA through the biliary system into the liver of pigs using ERCP and a power injector to supply hydrodynamic force. Human Factor IX (hFIX), deficient in hemophilia B, was used as a model gene therapy. Biliary hydrodynamic injection was well tolerated without significant changes in vital signs, liver enzymes, hematology, or histology. No off-target pDNA delivery to other organs was detected by polymerase chain reaction. Immunohistochemistry revealed that 50.19% of the liver stained positive for hFIX after hydrodynamic injection at 5.5 mg pDNA, with every hepatic lobule in all liver lobes demonstrating hFIX expression. HFIX-positive hepatocytes were concentrated around the central vein, radiating outward across all 3 metabolic zones.

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