Recent Research Supports Sedation-Free TNE for Effective Management of GI Disorders Utilizing the EvoEndo System

Recently published scientific abstracts and peer-reviewed papers support the efficacy and demand for gastroenterology programs to offer Sedation-Free Transnasal Endoscopy (TNE) utilizing the EvoEndo® System as an alternative to traditional TNE. Findings suggest a valuable opportunity to optimize the patient experience, minimize risks associated with anesthesia, and improve diagnostic outcomes.

Office-Based Sedation-Free Transnasal Esophagogastroduodenoscopy (TN-EGD) With Biopsies Using Single-Use Gastroscopes: A Pediatric Single-Center Experience

Smadi Y, Bittar K, et al. JPGN Reports, 2023: E-Pub.

https://onlinelibrary.wiley.com/doi/10.1002/jpr3.12025

Background

Unsedated transnasal endoscopy (TNE) has emerged as a promising alternative to sedated esophagogastroduodenoscopy (EGD) for assessing conditions like eosinophilic esophagitis (EoE) in children. Traditional sedated procedures pose risks and require extensive resources. Recent advancements include sedation-free TNE with virtual reality (VR) distraction, which improves patient experience. This study aimed to evaluate the feasibility and efficacy of office-based sedation-free transnasal esophagogastroduodenoscopy (TN-EGD) using single-use gastroscopes in pediatric patients.

Results

Eight pediatric patients aged 11-20 years, diagnosed with EoE, underwent TN-EGD in an outpatient clinic setting. The procedures were performed by an experienced gastroenterologist, with a high success rate of 100% for esophagogastroduodenoscopy (EGD) and 87.5% for duodenoscopy. All procedures, including biopsies, brushings, and sample collection, yielded adequate results for diagnosis and assessment.

There were no significant adverse events reported during or after the procedures. Minor vomiting occurred in 25% of cases but did not necessitate scope removal. The average duration of the office visit was 65 minutes, demonstrating efficiency in outpatient care delivery. Importantly, patient preference overwhelmingly favored TN-EGD over sedated procedures, with 7 out of 8 patients expressing a preference for the sedation-free approach.

Conclusion

Office-based sedation-free TN-EGD with VR distraction using single-use gastroscopes proved effective and safe for monitoring EoE, gastritis, and duodenitis in pediatric patients. The procedure had high completion rates, minimal adverse events, and favorable patient preference over sedated EGD. Moreover, it allowed for comprehensive assessment and sampling, enhancing diagnostic capabilities.

This approach offers potential cost savings by reducing the need for sedation and anesthesia, as well as optimizing patient experience by eliminating associated risks and providing a more efficient outpatient experience. The successful implementation of TN-EGD in this study suggests its viability for broader application in pediatric endoscopy and highlights the importance of continued exploration of innovative techniques to improve patient care.

Proof of Concept Functional Endoscopic Esophageal Evaluation of Swallowing (FEEES) Using Unsedated Transnasal Endoscopy

Friedlander JA, Smith C, Nguyen N, et al. JPGN 2024, E-Pub.

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Background

Sedation-free transnasal endoscopy (TNE) has emerged as a valuable tool in the evaluation of upper gastrointestinal disorders. This case report investigates the feasibility of Functional Endoscopic Esophageal Evaluation of Swallowing (FEEES) using unsedated TNE, particularly focusing on its application in a 14-year-old male diagnosed with Type 2 Achalasia and Eosinophilic Esophagitis (EoE).

Results

Conducted in a hospital outpatient clinic, this case study involved a 14-year-old male patient diagnosed with Type 2 Achalasia and Eosinophilic Esophagitis (EoE) and was led by an expert TNE endoscopist. The procedure, which integrated Transnasal Endoscopy (TNE) with Functional Endoscopic Esophageal Evaluation of Swallowing (FEEES), was successfully completed without any adverse events. The seamless execution of the procedure underscores the safety and feasibility of utilizing TNE for the functional evaluation of esophageal motility. These preliminary findings suggest promising potential for TNE as a diagnostic tool in assessing esophageal disorders. However, further research is essential to explore its full capabilities and refine its application in clinical practice, paving the way for enhanced diagnostic accuracy and patient care.

Conclusion

This case report is compelling evidence for the feasibility and safety of employing unsedated Transnasal Endoscopy (TNE) for Functional Endoscopic Esophageal Evaluation of Swallowing (FEEES). The absence of adverse events confirms the safety profile of this approach, suggesting it as a viable alternative to traditional sedated procedures. While the study underscores the potential utility of TNE in the functional assessment of esophageal motility, further research is important to comprehend its clinical implications fully. Future investigations should aim to elucidate the precise diagnostic capabilities of TNE in managing various esophageal disorders, ultimately optimizing its integration into clinical practice for enhanced patient care and improved treatment outcomes.

Safety and Efficacy of a Novel Ultrathin Gastroscope for Unsedated Transnasal Endoscopy in Children and Adults for Evaluation of Upper Gastrointestinal Disorders

Thavamani A, Ryan M, Leinwand K, et al. iGIE, 2024: E-Pub

https://www.researchgate.net/publication/376790857_Safety_and_Efficacy_of_a_Novel_Ultrathin_Gastroscope_for_Unsedated_Transnasal_Endoscopy_in_Children_and_Adults_for_Evaluation_of_Upper_Gastrointestinal_Disorders

Background

Transnasal endoscopy (TNE) represents a significant advancement in evaluating upper gastrointestinal (GI) disorders, offering a less invasive and potentially more comfortable alternative to traditional methods. This study aimed to evaluate the safety and efficacy of a novel ultrathin gastroscope specifically designed for unsedated transnasal endoscopy, with a particular focus on its application in both pediatric and adult populations presenting with various upper GI conditions. The study included participants aged between 6 and 37 years, comprising 45 males and eight females. Among these participants, 18 were undergoing TNE for the first time (naïve to TNE), while 35 had previously undergone TNE. The procedures performed included TN-Esophagoscopy in 3 cases, TN-EG in 42 cases, and TN-EGD in 4 cases, with or without biopsies, all deemed adequate for comprehensive diagnostic assessment.

Results

Conducted as a multi-center retrospective case series across seven medical centers, including six pediatric and one adult center, this study involved 53 subjects, with 51 diagnosed with eosinophilic esophagitis (EoE) and 2 with esophageal varices. Proceduralists, experienced in TNE but newly trained in TNE utilizing the EvoEndo device, performed the procedures. The study achieved a high completion rate of 94.3%, with 50 out of 53 subjects completing the procedure successfully. Notably, only one subject was excluded from the cohort as the procedure was not initiated. The average duration of the procedure in the office setting was 33.5 minutes, with a standard deviation of 7.2 minutes, based on data from 18 cases.

Adverse events were minimal, all graded as mild (Grade 1 or lower), occurring at a frequency of 9.4%. These events primarily included two cases of epistaxis, two instances of a sore nose, and one reported case of gag reflex. All procedures, including those involving biopsies, were deemed adequate, ensuring comprehensive diagnostic assessment.

Conclusion

The study emphasizes the safety and efficacy of the novel ultrathin gastroscope for unsedated TNE, positioning it as a valuable alternative for the evaluation of upper GI disorders in both pediatric and adult populations. With a high completion rate and minimal adverse events, this approach offers potential benefits in terms of patient comfort and maintains high diagnostic accuracy. The findings suggest that incorporating this device into clinical practice could enhance patient experience and improve diagnostic outcomes, thereby contributing to more effective management strategies for upper GI disorders.

A Guide on Transnasal Endoscopy: Setting Up a Pediatric Unsedated Endoscopy Program

Friedlander JA, Leinwand K, Bhardwaj V, Nguyen N
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Background

Transnasal endoscopy (TNE) without sedation is a promising option for evaluating upper gastrointestinal tract disorders in pediatric patients. This study provides a comprehensive guide for establishing a pediatric unsedated endoscopy program to address the growing interest in TNE within the pediatric gastroenterology community. The guide outlines essential considerations, including unit setup, staffing requirements, equipment selection, financial aspects, and training considerations.

Results

The study offers detailed insights into setting up a pediatric TNE program. It discusses the design and layout of the TNE unit, staffing needs, credentialing requirements, and special staffing considerations such as the role of Child Life specialists. Equipment selection is highlighted, emphasizing the differences between pediatric and adult endoscopes and the importance of distraction equipment such as Virtual Reality (VR) systems. Patient preparation, including topical analgesia and tissue sampling techniques, is also addressed. Financial considerations, including capital and consumable costs, as well as billing and coding strategies, are thoroughly examined. Additionally, capacity and efficiency considerations are addressed, with recommendations for optimizing workflow and scheduling to accommodate the expected volume of procedures. The study also emphasizes the importance of documentation, parent/caregiver preparation, and training for healthcare providers involved in TNE.

Conclusion

Establishing a pediatric unsedated endoscopy program presents a valuable opportunity to enhance patient care, minimize the risks associated with anesthesia, and reduce healthcare costs. The guide provided in this study serves as a comprehensive resource for pediatric gastroenterologists aiming to implement sedation-free TNE into their practice. By addressing key considerations such as unit setup, staffing, equipment selection, financial planning, and training requirements, pediatric healthcare providers can effectively establish and manage successful TNE programs, thereby improving accessibility and quality of care for pediatric patients with gastrointestinal disorders.