招待講演

2025年11月14日(金) 13:20 ~ 14:00 第1会場

[IL1] 招待講演 1

司会：山口 茂樹(東京女子医科大学消化器・一般外科)

[IL1]

Transforming the Future of Gastrointestinal (GI) Surgery through Novel Image Guidance

Jeffrey Milsom (Surgery, NewYork-Presbyterian/Weill Cornell Medical Center)

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Despite numerous medical and surgical advances over the past several decades, the incidence of serious GI diseases has continued to increase throughout the world. The need for "disruptive innovation" to improve outcomes, safety, and LOWER healthcare costs in treating GI diseases has never been greater.
Taking a lesson from cardiac and vascular interventions over the past two decades, this talk will outline a strategy to the diagnosis and treatment of major GI diseases using "image guidance", using new forms of data gathering and processing (artificial intelligence "AI"), that promises to completely revolutionize our approach to GI diseases. These approaches will include 3D imaging methods (based on CT, MRI, US, and endoscopy, and AI) that are superimposed on the patient in real time [augmented reality (AR)], permitting safer, simpler, and more precise treatments, including percutaneous approaches, for such diseases as small bowel obstructions, appendectomy, and localized tumor excisions and ablations. Clinical examples, outcomes, and case series will be used to illustrate the concepts and potential.
Practical short-term approaches using an "operating room of the future" will be highlighted, including more use of routine fluoroscopy (and new portable 3D fluoroscopy), combined endoscopic and laparoscopic methods, use of AR, and image fusion methods combining preop CT scanning with intraoperative US and endoscopy.
Like cardiac and vascular interventions, image guidance methods in treating GI diseases and the use of AI have the potential to make all forms of current GI surgery safer, are leading to dramatic new approaches, and promise to define a bright new chapter in minimally invasive therapies in the near future.