Name of Journal: *World Journal of Gastrointestinal Surgery*

Manuscript Type: REVIEW

Role of Artificial Intelligence in Hepatobiliary and Pancreatic surgery

Abstract

Over the past decade, enhanced preoperative imaging and visualization, improved delineation of the complex anatomical structures of the liver and pancreas, and intra-operative technological advances have helped deliver the liver and pancreatic surgery with increased safety and better postoperative outcomes. Artificial intelligence (AI) has a major role to play in 3D visualization, virtual simulation, augmented reality that helps in the training of surgeons and the future delivery of conventional, laparoscopic, and robotic hepatobiliary and pancreatic (HPB) surgery; artificial neural networks and machine learning has the potential to revolutionize individualized patient care during the preoperative imaging, and postoperative surveillance. In this paper, we reviewed the existing evidence and outlined the potential for applying AI in the perioperative care of patients undergoing HPB surgery.

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This article debates a theme of major concern for **surgeons**, the correct identification of a **pancreatic cystic lesion**, and a theme of major concern for the medical society and the society in general, the application of **artificial intelligence** (AI). To understand the relevance of identifying correctly a **cystic lesion** it is enough to consider that some **cystic lesions** have no malignant potential and no prognostic ...

Author: Marco Montorsi, Giovanni Capretti **Publish Year:** 2019

Deep learning analysis for the detection of pancreatic ...

https://pubmed.ncbi.nlm.nih.gov/32910528

Background/purpose: The application **of artificial intelligence** to clinical diagnostics using deep learning has been developed in recent years. In this study, we developed an original computer-assisted diagnosis (CAD) system using deep learning analysis of EUS images (EUS-CAD), and assessed its ability to detect **pancreatic** ductal carcinoma (PDAC), using control images from patients with chronic ...

Artificial intelligence in gastric cancer: a systematic review

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Objective: This study aims to systematically review the application **of artificial intelligence** (AI) ...niques in gastric cancer and to discuss the potential limitations and future directions of AI in gastric

Raising the Standard: The Evolving Role of Artificial ...

https://bariatrictimes.com/evolving-artificial-intelligence-surgery

Future applications of AI in medicine and **surgery** to improve clinical outcomes are only limited by our imaginations and our participation in the process. References. Hashimoto DA, Rosman G, Rus D, Meireles OR. **Artificial intelligence** in **surgery**: promises and perils. Ann Surg. 2018;268(1):70–76.

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The title of the work we are here presenting "Diagnostic ability **of artificial intelligence** using deep learning analysis of cyst fluid in differentiating malignant from benign **pancreatic** cystic lesions"

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Oct 07, 2019 · **Artificial intelligence** is providing a way to do just that. In collaboration with computer scientists from the University of Central Florida, Mayo Clinic radiology and gastroenterology experts have developed an algorithm that can identify **pancreatic** cysts that are at higher risk of developing into **pancreatic** cancer.

The emerging role of AI in medicine, gastroenterology and ...

https://www.mayoclinic.org/medical-professionals/...

Artificial intelligence (AI) is a branch of computer science that attempts to emulate human problem-solving skills. Also called cognitive computing, AI includes concepts such as machine learning — including deep learning and natural language processing — which are especially relevant to health care.

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Author: Ryosuke Tonozuka, Takao Itoi, Naoyosh... **Publish Year:** 2020

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