ISSN 1948-9366 (online)

World Journal of

Gastrointestinal Surgery

World J Gastrointest Surg 2024 June 27; 16(6): 1485-1955

Published by Baishideng Publishing Group Inc

World Journal of Gastrointestinal Surgery

Contents

Monthly Volume 16 Number 6 June 27, 2024

EDITORIAL

1485 Has the open surgical approach in colorectal cancer really become uncommon?
Cariati M, Brisinda G, Chiarello MM

1493 Intestinal Behçet's disease: A review of clinical diagnosis and treatment
Liu Y, Gao F, Yang DQ, Jiao Y

1501 Non-operative management of rectal cancer: Highlighting the controversies
Emile SH, Wignakumar A

1507 Current considerations for the surgical management of gallbladder adenomas
Pavlidis ET, Galanis IN, Pavlidis TE

1513 Immunotherapy in gastric cancer with liver metastasis: Challenges and opportunities
Bardakçi M, Ergun Y

1517 From the mathematical model to the patient: The scientific and human aspects of artificial intelligence in gastrointestinal surgery
Arredondo Montero J

MINIREVIEWS

1521 Laparoscopic right radical hemicolectomy: Central vascular ligation and complete mesocolon excision *vs* D3 lymphadenectomy - How I do it?
Yadav K

ORIGINAL ARTICLE

Case Control Study

1527 Perioperative outcomes of transvaginal specimen extraction laparoscopic total gastrectomy and conventional laparoscopic-assisted total gastrectomy
Zhang ZC, Wang WS, Chen JH, Ma YH, Luo QF, Li YB, Yang Y, Ma D

Retrospective Cohort Study

1537 Optimal extent of lymphadenectomy improves prognosis and guides adjuvant chemotherapy in esophageal cancer: A propensity score-matched analysis
Tang JM, Huang SJ, Chen QB, Wu HS, Qiao GB

1548 Efficacy of laparoscopic low anterior resection for colorectal cancer patients with 3D-vascular reconstruction for left coronary artery preservation
Wang Y, Liu ZS, Wang ZB, Liu S, Sun FB

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 6 June 27, 2024

Contents

1558 Robotic-assisted low anterior resection for rectal cancer shows similar clinical efficacy to laparoscopic surgery: A propensity score matched study

Long SX, Wang XN, Tian SB, Bi YF, Gao SS, Wang Y, Guo XB

1571 Machine learning prediction model for gray-level co-occurrence matrix features of synchronous liver metastasis in colorectal cancer

Yang KF, Li SJ, Xu J, Zheng YB

1582 Risk factors associated with intraoperative persistent hypotension in pancreaticoduodenectomy

Wang XJ, Xuan XC, Sun ZC, Shen S, Yu F, Li NN, Chu XC, Yin H, Hu YL

Retrospective Study

1592 Endoscopic ultrasound-guided biliary drainage *vs* percutaneous transhepatic bile duct drainage in the management of malignant obstructive jaundice

Zhu QQ, Chen BF, Yang Y, Zuo XY, Liu WH, Wang TT, Zhang Y

1601 Clinical efficacy of Gamma Knife® combined with transarterial chemoembolization and immunotherapy in the treatment of primary liver cancer

Wang GF, Shu CX, Cai XD, Wang HB, Xu JH, Jia YQ

1609 Identifying the risk factors for pancreatic fistula after laparoscopic pancreaticoduodenectomy in patients with pancreatic cancer

Xu H, Meng QC, Hua J, Wang W

1618 Correlation between postoperative chemotherapy regimen and survival in patients with resectable gastric adenocarcinoma accompanied with vascular cancer thrombus

Yang ZF, Dong ZX, Dai CJ, Fu LZ, Yu HM, Wang YS

1629 Gastroesophageal signet ring cell carcinoma morbidity and mortality: A retrospective review

Grinlinton M, Furkert C, Maurice A, Angelo N, Booth M

1637 Analysis of lymph node metastasis and survival prognosis in early gastric cancer patients: A retrospective study

Liu DY, Hu JJ, Zhou YQ, Tan AR

1647 Clinical study of neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio in hypertriglyceridemia-induced acute pancreatitis and acute biliary pancreatitis with persistent organ failure

Xu MS, Xu JL, Gao X, Mo SJ, Xing JY, Liu JH, Tian YZ, Fu XF

1660 Tumor recurrence and survival prognosis in patients with advanced gastric cancer after radical resection with radiotherapy and chemotherapy

Nie SF, Wang CY, Li L, Yang C, Zhu ZM, Fei JD

1670 Prediction and analysis of albumin-bilirubin score combined with liver function index and carcinoembryonic antigen on liver metastasis of colorectal cancer

Wang ZM, Pan SP, Zhang JJ, Zhou J

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 6 June 27, 2024

Contents

1681 Comparative analysis of the short and medium-term efficacy of the Da Vinci robot *versus* laparoscopic total mesangectomy for rectal cancer

Gao WG, Shi W, Gong XC, Li ZW, Tuoheti Y

1691 How to apply *ex-vivo* split liver transplantation safely and feasibly: A three-step approach

Zhao D, Xie QH, Fang TS, Zhang KJ, Tang JX, Yan X, Jin X, Xie LJ, Xie WG

1700 Clinical efficacy of laparoscopic cholecystectomy combined with endoscopic papillary balloon dilation in treatment of gallbladder stones with common bile duct stones: A retrospective study

Liu HD, Zhang Q, Xu WS, Jin S

1709 Evaluation of oxaliplatin and tigio combination therapy in locally advanced gastric cancer

Wang T, Zhang LY

1717 Lung ultrasound score evaluation of the effect of pressure-controlled ventilation volume-guaranteed on patients undergoing laparoscopic-assisted radical gastrectomy

Tan J, Bao CM, Chen XY

1726 Effect of endoscopic sphincterotomy and endoscopic papillary balloon dilation endoscopic retrograde cholangiopancreatographies on the sphincter of Oddi

Fu K, Yang YY, Chen H, Zhang GX, Wang Y, Yin Z

1734 Influence of reduced-port laparoscopic surgery on perioperative indicators, postoperative recovery, and serum inflammation in patients with colorectal carcinoma

Wu HB, Liu DF, Liu YL, Wang XF, Cao YP

Clinical Trials Study

1742 Clinical effect of spleen aminopeptide on improving liver function damage and immune function in children with infant hepatitis syndrome

Fang XQ, Gan T, Wang LM

Observational Study

1749 Observation of therapeutic effect of lamp irradiation combined with purple gromwell oil gauze on alleviating intestinal colic in patients

Cen BZ, Chen YS, Li LP, Wu JW, Xie YF

Randomized Controlled Trial

1756 Radiofrequency ablation combined with transcatheter arterial chemoembolization for recurrent liver cancer

Guo JY, Zhao LL, Cai HJ, Zeng H, Mei WD

Randomized Clinical Trial

1765 Effect of high-protein peptide-based formula compared with isocaloric isonitrogenous polymeric formula in critically ill surgical patient

Sumritpradit P, Shantavasinkul PC, Ungpinitpong W, Noorit P, Gajaseni C

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 6 June 27, 2024

Contents

Clinical and Translational Research

1775 Metabolic disorders and hepatitis: Insights from a Mendelian randomization study

Liang LB, Liu XP, Mao TR, Su QL

1791 Analysis of cancer-specific survival in patients with metastatic colorectal cancer: A evidence-based medicine study

Zhou YJ, Tan ZE, Zhuang WD, Xu XH

1803 FDX1 as a novel biomarker and treatment target for stomach adenocarcinoma

Xie XZ, Zuo L, Huang W, Fan QM, Weng YY, Yao WD, Jiang JL, Jin JQ

Basic Study

1825 Peritoneal fluid indocyanine green test for diagnosis of gut leakage in anastomotic leakage rats and colorectal surgery patients

Huang Y, Li TY, Weng JF, Liu H, Xu YJ, Zhang S, Gu WL

SYSTEMATIC REVIEWS

1835 Global geoepidemiology of gastrointestinal surgery rates in Crohn's disease

Weissman S, Aziz M, Bangolo A, Nagesh VK, Aung H, Mathew M, Garcia L, Chandar SA, Karamthoti P, Bawa H, Alshimari A, Kejela Y, Mehdi N, Joseph CA, Kodali A, Kumar R, Goyal P, Satheesha S, Nivedita F, Tesoro N, Sethi T, Singh G, Belal A, Intisar A, Khalid H, Cornwell S, Suresh SB, Ahmed K, Marole KK, Anand OP, Reshi RB, Mehta TI, Elias S, Feuerstein JD

META-ANALYSIS

1845 Compare clinical efficacy and safety of neoadjuvant therapy and neoadjuvant chemoradiotherapy for locally advanced rectal cancer: Meta-analysis

Wang Y, Yang Y, Liu QQ, Wang SZ

1857 Sarcopenia adversely impacts clinical outcomes in patients undergoing pancreaticoduodenectomy: A systematic review and meta-analysis

Zhang QH, Ma JD, Lu YM, Zhang RN, Zhao ZH, Li YT, Chen QP

1871 Comparison efficacy and safety of total laparoscopic gastrectomy and laparoscopically assisted total gastrectomy in treatment of gastric cancer

Li L, Liu DY, Leng J, Tao XM, Wu HQ, Zhu YP

1883 Application value of indocyanine green fluorescence imaging in guiding sentinel lymph node biopsy diagnosis of gastric cancer: Meta-analysis

Zhang QJ, Cao ZC, Zhu Q, Sun Y, Li RD, Tong JL, Zheng Q

SCIENTOMETRICS

1894 Visualizing the landscape of appendiceal tumor research after 2010: A bibliometric study

Ji JN, Yin ZB

World Journal of Gastrointestinal Surgery

Monthly Volume 16 Number 6 June 27, 2024

Contents

CASE REPORT

1910 No-touch isolation technique in emergency pancreaticoduodenectomy for neoplastic hemorrhage: Two case reports and review of literature

Cho A, Katagiri S, Ota M, Onizawa S, Higuchi R, Sugishita T, Niwa Y, Ishita T, Mouri T, Kato A, Iwata M

1918 Malignant myopericytoma originating from the colon: A case report

Zhang HL, Zhang M, Guo JQ, Wu FN, Zhu JD, Tu CY, Lv XL, Zhang K

1926 Novel magnetic compression technique for the treatment of postoperative anastomotic stenosis in rectal cancer: A case report

Zhang MM, Sha HC, Xue HR, Qin YF, Song XG, Li Y, Li Y, Deng ZW, Gao YL, Dong FF, Lyu Y, Yan XP

1933 Magnetic compression anastomosis to restore biliary tract continuity after obstruction following major abdominal trauma: A case report

Zhang MM, Tao J, Sha HC, Li Y, Song XG, Muensterer OJ, Dong FF, Zhang L, Lyu Y, Yan XP

1939 Colo-colonic intussusception as a rare complication of colonoscopy with polypectomy: Two case reports

Xiang SH, Xu GQ

1948 Resection of polyps involving the appendiceal orifice by combined endo-laparoscopic surgery: Two case reports

Zhang YY, Lu JY, Wang Q, Yang AM

LETTER TO THE EDITOR

1953 Evaluating bacterial contamination and surgical site infection risks in intracorporeal anastomosis: Role of bowel preparation

Lee J

ABOUT COVER

Peer Reviewer of *World Journal of Gastrointestinal Surgery*, Deven Juneja, DNB, FNB, EDIC, FCCP, Director, Department of Critical Care Medicine, Max Super Speciality Hospital, New Delhi 110017, India. devenjuneja@gmail.com

AIMS AND SCOPE

The primary aim of *World Journal of Gastrointestinal Surgery* (*WJGS*, *World J Gastrointest Surg*) is to provide scholars and readers from various fields of gastrointestinal surgery with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WJGS mainly publishes articles reporting research results and findings obtained in the field of gastrointestinal surgery and covering a wide range of topics including biliary tract surgical procedures, biliopancreatic diversion, colectomy, esophagectomy, esophagostomy, pancreas transplantation, and pancreatectomy, *etc*.

INDEXING/ABSTRACTING

The *WJGS* is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Current Contents/Clinical Medicine, Journal Citation Reports/Science Edition, PubMed, PubMed Central, Reference Citation Analysis, China Science and Technology Journal Database, and Superstar Journals Database. The 2024 Edition of Journal Citation Reports® cites the 2023 journal impact factor (JIF) for *WJGS* as 1.8; JIF without journal self cites: 1.7; 5-year JIF: 1.9; JIF Rank: 123/290 in surgery; JIF Quartile: Q2; and 5-year JIF Quartile: Q3.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: *Zi-Hang Xu*; **Production Department Director:** *Xiang Li*; **Cover Editor:** *Jia-Ru Fan*.

NAME OF JOURNAL
World Journal of Gastrointestinal Surgery

ISSN
ISSN 1948-9366 (online)

LAUNCH DATE
November 30, 2009

FREQUENCY
Monthly

EDITORS-IN-CHIEF
Peter Schemmer

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/1948-9366/editorialboard.htm

PUBLICATION DATE
June 27, 2024

INSTRUCTIONS TO AUTHORS
https://www.wjgnet.com/bpg/gerinfo/204

GUIDELINES FOR ETHICS DOCUMENTS
https://www.wjgnet.com/bpg/GerInfo/287

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
https://www.wjgnet.com/bpg/gerinfo/240

PUBLICATION ETHICS
https://www.wjgnet.com/bpg/GerInfo/288

PUBLICATION MISCONDUCT
https://www.wjgnet.com/bpg/gerinfo/208

ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/bpg/gerinfo/242

STEPS FOR SUBMITTING MANUSCRIPTS
https://www.wjgnet.com/bpg/GerInfo/239

ONLINE SUBMISSION
https://www.f6publishing.com

World Journal of Gastrointestinal Surgery

Submit a Manuscript: https://www.f6publishing.com

World J Gastrointest Surg 2024 June 27; 16(6): 1517-1520

DOI: 10.4240/wjgs.v16.i6.1517

ISSN 1948-9366 (online)

EDITORIAL

From the mathematical model to the patient: The scientific and human aspects of artificial intelligence in gastrointestinal surgery

Javier Arredondo Montero

Specialty type: Gastroenterology and hepatology

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification
Scientific Quality: Grade B
Novelty: Grade B
Creativity or Innovation: Grade B
Scientific Significance: Grade B

P-Reviewer: Mahmoud MZ, Saudi Arabia

Received: March 10, 2024
Revised: April 3, 2024
Accepted: April 22, 2024
Published online: June 27, 2024
Processing time: 111 Days and 11.5 Hours

Javier Arredondo Montero, Department of Pediatric Surgery, Complejo Asistencial Universitario de León, Castilla y León, León 24008, Spain

Corresponding author: Javier Arredondo Montero, MD, PhD, Pediatric Surgeon. Department of Pediatric Surgery, Complejo Asistencial Universitario de León, c/Altos de Nava s/n, Castilla y León, León 24008, Spain. javier.montero.arredondo@gmail.com

Abstract

Recent medical literature shows that the application of artificial intelligence (AI) models in gastrointestinal pathology is an exponentially growing field, with promising models that show very high performances. Regarding inflammatory bowel disease (IBD), recent reviews demonstrate promising diagnostic and prognostic AI models. However, studies are generally at high risk of bias (especially in AI models that are image-based). The creation of specific AI models that improve diagnostic performance and allow the establishment of a general prognostic forecast in IBD is of great interest, as it may allow the stratification of patients into subgroups and, in turn, allow the creation of different diagnostic and therapeutic protocols for these patients. Regarding surgical models, predictive models of postoperative complications have shown great potential in large-scale studies. In this work, the authors present the development of a predictive algorithm for early post-surgical complications in Crohn's disease based on a Random Forest model with exceptional predictive ability for complications within the cohort. The present work, based on logical and reasoned, clinical, and applicable aspects, lays a solid foundation for future prospective work to further develop post-surgical prognostic tools for IBD. The next step is to develop in a prospective and multicenter way, a collaborative path to optimize this line of research and make it applicable to our patients.

Key Words: Survivor bias; Data analysis; Machine learning; Ethics; Critical thinking; Postsurgical; Complications; Inflammatory bowel disease; Gastrointestinal surgery

Core Tip: Recent medical literature shows that the application of artificial intelligence models in gastrointestinal pathology is an exponentially growing field. In this work, the authors present the development of a predictive algorithm for early post-surgical complications in Crohn's disease based on a Random Forest model with exceptional predictive ability for complications within the cohort. The present work, based on logical and reasoned, clinical, and applicable aspects lays, a solid foundation for future prospective work to further develop post-surgical prognostic tools for inflammatory bowel disease.

Citation: Arredondo Montero J. From the mathematical model to the patient: The scientific and human aspects of artificial intelligence in gastrointestinal surgery. *World J Gastrointest Surg* 2024; 16(6): 1517-1520
URL: https://www.wjgnet.com/1948-9366/full/v16/i6/1517.htm
DOI: https://dx.doi.org/10.4240/wjgs.v16.i6.1517

INTRODUCTION

These are times of change. Technological development has undergone exponential growth in recent decades, which has had direct repercussions on practically all aspects of our lives. And although healthcare moves at a different pace, marked by rigorous safety and ethical protocols, it has not escaped this change. The progressive computerization of our clinical records and the introduction of novel technology in the assistance of our patients, for example, are tangible realities. Although these changes in our clinical practice can undoubtedly be beneficial, they often constitute a challenge and require further research to optimize them[1].

As scientists, the basis of our work is data. A physician cannot work without data. And if there is a technological revolution these days that is pertinent to highlight, it is that of data. The computerization and digitalization that I mentioned previously, together with the appearance of multiple tools that make it possible to obtain more and more accurate data, mean that we are at a historic moment in which we can obtain the greatest amount of data, (as well as the most accurate data), from our patients. But data alone is of no value. Data acquire value at the expense of their correct interpretation. An illustrative example is the so-called survivor bias. This logical fallacy leads us to focus on people who pass a selection process while leaving out those who do not, which can lead to false conclusions. During World War II, for example, the United States government incurred this bias when analyzing aircraft returning from combat, recommending that damaged areas be reinforced. However, the interpretation was incorrect: It was the undamaged parts that should have been reinforced because the aircraft that suffered damage in those areas were those that did not return from combat. It was statistician Abraham Wald from the Statistical Research Group at Columbia University who analyzed the data in the right way and understood what was happening[2]. Therefore, Wald proposed that the Navy reinforce areas where the returning aircraft were unscathed. The data was there, it was just that it had not been interpreted correctly.

ARTIFICIAL INTELLIGENCE

And amid this information revolution, artificial intelligence (AI) emerges. But what is AI? According to Wikipedia, it is a discipline and a set of cognitive and intellectual capabilities expressed by computer systems or combinations of algorithms whose purpose is the creation of machines that mimic human intelligence to perform tasks, and that can improve as they gather information. And from this definition, I would like to highlight a few aspects: The first is that these computer capabilities mimic human intelligence. We can teach these tools to simulate our way of thinking, to “mimic” it, but never to replace it. The conception of original ideas in medical research, the "spark" inherent to our species that has led to unique and extraordinary discoveries is, in the opinion of the author of this text, inimitable. I think it is important that we encourage and safeguard critical thinking and the ability to produce original ideas, since one of the risks of the abuse of these models is precisely this, the loss of our "spark". The second is that these models improve as they accumulate and compile information. This is the basis of progress in science and medicine: Collaboration. I believe it is essential that strong international research groups are encouraged to develop these lines of research together to enhance their results and allow them to be extrapolated globally. Together we are more.

That said, I would like to turn my attention to the paper entitled "Predicting short-term major postoperative complications in intestinal resection for Crohn’s disease: A machine learning-based study”[3]. In this paper, the authors present the development of a predictive algorithm for early post-surgical complications in Crohn's disease based on a Random Forest model with exceptional predictive ability for complications within the cohort [area under the curve (AUC) = 0.965 in the training cohort, AUC = 0.924 in the validation cohort].

Concerning AI models and gastrointestinal pathology, recent medical literature shows that this is an exponentially growing field, which indirectly translates the existing interest in this area. We found promising models for different pathologies, such as gastric cancer, liver fibrosis and cirrhosis, gastrointestinal stromal tumors, and Barrett's esophagus, among others[4,5]. Overall, all these models (both diagnostic and prognostic) show very high performances that exceed the gold standards previously used. However, in most cases, they have been conceived for research purposes and their actual implementability in clinical practice is low or non-existent. Regarding AI models and inflammatory bowel disease (IBD), recent reviews demonstrate promising diagnostic and prognostic AI models. However, studies are generally at high risk of bias (especially in AI models that are image-based)[6]. The availability of specific AI models that improve

diagnostic performance and allow the establishment of a general prognostic forecast in IBD is of great interest, as it may allow the stratification of patients into subgroups and in turn, allow the creation of different diagnostic and therapeutic protocols for these patients. This goes hand in hand with the general trend in our profession towards so-called personalized medicine.

Surgery has always been a complex area in scientific terms due to multiple factors. First, the variability between surgeons in terms of surgical technique: Although the current tendency is to protocolize and standardize surgical practice, many variables are difficult to quantify (from the pressure exerted on the sutures to the amount of monopolar energy used). Second, the difficulty in reflecting as objective data many of the intraoperative aspects: We can quantify the surgical time, but it is difficult to quantify the degree of peritoneal involvement in a patient with peritonitis or the degree of intestinal involvement in a diverticular disease. Nevertheless, despite the conceptual aspects previously explained, predictive models of postoperative complications have shown great potential in large-scale studies[7]. In this case, the authors have opted for the creation of a model with variables that are simple to collect and reproducible, which, in addition to making it rigorous, allows for possible external validation in the future. The Crohn's disease activity index (CDAI), the serum preoperative albumin, and the surgical duration are parameters that any surgeon can easily collect on their patients. On the other hand, it is pertinent to note that all the elements included have a strong biological plausibility in terms of post-surgical complications: A patient with hypoproteinaemia, high CDAI, or prolonged surgery is logically more susceptible to complications than a patient in a more favorable situation. In this case, except for urgent surgery, there are two modifiable factors such as CDAI and hypoalbuminemia, and a factor that the surgeon can keep in mind during the procedure such as surgical time.

Although there is a significant lack of knowledge regarding AI models, most of them are based on mathematical algorithms that, through iterations, create predictive models. This is the same principle as that of other statistical models we are already familiar with, such as logistic regression. In this article, the authors opted for a Random Forest type model. This is a reasonable and justified decision, given that previous work has demonstrated the superiority of these models to other traditional models such as logistic regression[8]. However, there are nuances to this, given that in certain cases it may be preferable to opt for a model such as logistic regression (for example, in cases where the noise variables are scarce). Random forest models have important advantages such as they can handle missing values and outliers, they can deal with classification and regression problems, and they can handle large amounts of data efficiently. However, it can be difficult and time-consuming to train them.

As I said at the beginning, we live in times of change, of rapid, almost vertiginous change. The amount of data we handle daily has become practically unmanageable, we are becoming dependent on technology. I think this is a mistake. I think we need to reflect long and hard about the direction we are heading in and realize that speed, while important, is not paramount. We must protect our critical thinking. We must reflect on the why of things. We must use technology as a resource within our reach, but not become dependent on it. We must look at the data and analyze it, and it is our responsibility to interpret it properly, no matter how many tools we have to assist us. When an anesthesiologist sees a desaturation on his patient's pulse oximetry monitor, the first thing he does is not to open the oxygen flow, but to look at the patient's finger to see if the sensor is correctly positioned: That is what defines us, the ability to think and reason. Feynman, a renowned physicist who laid the foundations of quantum mechanics, once said, "Direction is more important than speed." I couldn't agree more. The present work lays a solid foundation for future prospective work to further develop post-surgical prognostic tools for IBD. And it does so because it is based on logical and reasoned, clinical and applicable aspects. This must be the way forward for AI. The next step, as I mentioned, is to develop a collaborative path to optimize this line of research in a prospective and multicenter way and make it applicable to our patients. We must not forget that we do not work with machines, we work with patients.

CONCLUSION

AI-based predictive models for gastrointestinal surgical pathology, such as the commented work, show promising results. However, larger-scale prospective studies are needed for validation. These models cannot supplant human reasoning and the human mind, so they should be conceived as complementary tools in research and not as integral automated elements.

ACKNOWLEDGEMENTS

To Helen Williams, for her help in the linguistic revision of the manuscript.

FOOTNOTES

Author contributions: Arredondo Montero J manuscript conception and design; writing, review and editing; literature review.

Conflict-of-interest statement: The author has no conflict of interest.

Country of origin: Spain

ORCID number: Javier Arredondo Montero 0000-0002-0943-6367.

Corresponding Author's Membership in Professional Societies: Sociedad Española de Cirugia Pediátrica.

S-Editor: Qu XL
L-Editor: A
P-Editor: Xu ZH

REFERENCES

1 **Berardi C**, Antonini M, Jordan Z, Wechtler H, Paolucci F, Hinwood M. Barriers and facilitators to the implementation of digital technologies in mental health systems: a qualitative systematic review to inform a policy framework. *BMC Health Serv Res* 2024; **24**: 243 [PMID: 38408938 DOI: 10.1186/s12913-023-10536-1]

2 **Wald A**. A Method of Estimating Plane Vulnerability Based on Damage of Survivors. Statistical Research Group, Columbia University. CRC 432- reprint from July 1980 Archived 2019-07-13 at the Wayback Machine. Center for Naval Analyses. 1943. Available from: https://apps.dtic.mil/sti/citations/ADA091073

3 **Wang FT**, Lin Y, Yuan XQ, Gao RY, Wu XC, Xu WW, Wu TQ, Xia K, Jiao YR, Yin L, Chen CQ. Predicting short-term major postoperative complications in intestinal resection for Crohn's disease: A machine learning-based study. *World J Gastrointest Surg* 2024; **16**: 717-730 [PMID: 38577067 DOI: 10.4240/wjgs.v16.i3.717]

4 **Shi Y**, Fan H, Li L, Hou Y, Qian F, Zhuang M, Miao B, Fei S. The value of machine learning approaches in the diagnosis of early gastric cancer: a systematic review and meta-analysis. *World J Surg Oncol* 2024; **22**: 40 [PMID: 38297303 DOI: 10.1186/s12957-024-03321-9]

5 **Tan JL**, Chinnaratha MA, Woodman R, Martin R, Chen HT, Carneiro G, Singh R. Diagnostic Accuracy of Artificial Intelligence (AI) to Detect Early Neoplasia in Barrett's Esophagus: A Non-comparative Systematic Review and Meta-Analysis. *Front Med (Lausanne)* 2022; **9**: 890720 [PMID: 35814747 DOI: 10.3389/fmed.2022.890720]

6 **Liu X**, Reigle J, Prasath VBS, Dhaliwal J. Artificial intelligence image-based prediction models in IBD exhibit high risk of bias: A systematic review. *Comput Biol Med* 2024; **171**: 108093 [PMID: 38354499 DOI: 10.1016/j.compbiomed.2024.108093]

7 **Xue B**, Li D, Lu C, King CR, Wildes T, Avidan MS, Kannampallil T, Abraham J. Use of Machine Learning to Develop and Evaluate Models Using Preoperative and Intraoperative Data to Identify Risks of Postoperative Complications. *JAMA Netw Open* 2021; **4**: e212240 [PMID: 33783520 DOI: 10.1001/jamanetworkopen.2021.2240]

8 **Couronné R**, Probst P, Boulesteix AL. Random forest versus logistic regression: a large-scale benchmark experiment. *BMC Bioinformatics* 2018; **19**: 270 [PMID: 30016950 DOI: 10.1186/s12859-018-2264-5]

Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA
Telephone: +1-925-3991568
E-mail: office@baishideng.com
Help Desk: https://www.f6publishing.com/helpdesk
https://www.wjgnet.com