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Ran Qi, J Gastrointest Dig Syst 2022, Volume 12

Cancer-associated fibroblasts suppress ferroptosis and induce gemcitabine resistance in pancreatic cancer cells through exosome-derived ACSL4-targeting miRNAs

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Pancreatic cancer remains one of the deadliest cancer types in the world. Severe chemotherapy resistance leads to poor prognosis in patients with advanced pancreatic cancer, highlighting the need to investigate mechanisms and develop therapies to overcome chemo resistance.

Primary NFs and CAFs were collected from PDAC patient tumour samples and Para cancerous pancreatic tissues. Exosomes were isolated by ultra-centrifugation and identified via western blotting, nanoparticle tracking analysis, and transmission electron microscopy. CAF-derived miRNAs were analysed by RT-qPCR and high throughput sequencing. GEM was used to induce ferroptosis, and ferroptosis levels were evaluated via measuring lipid ROS, cell viability, and intracellular Fe²⁺ levels. A xenograft tumour model was used to evaluate in vivo tumour response.

Exosomes derived from CAFs in PDAC did not exhibit innate GEM resistance. CAFs promoted chemo resistance in PDAC cells following GEM treatment by secreting exosomes, potentially through maintaining signalling communication with cancer cells. Mechanistically, miR-3173-5p derived from CAF exosomes sponged ACSL4 and inhibited ferroptosis after uptake by cancer cells.

The present study reveals a new mechanism of acquired chemo-resistance in PDAC and suggests this miR-3173-5p/ACSL4 pathway as a possible therapeutic target in Gem-resistant pancreatic cancer

Biography

Ran Qi has his passion in improving the treatment of pancreatic cancer. After years of clinical work experience accumulation and summary, he highlights the importance of elucidating the mechanisms of ferroptosis in chemotherapy resistance. His research provides new ideas for the improvement of chemotherapy sensitivity in cancer by blocking specific miRNA packaging into exosomes.

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Saria Dbar, J Gastrointest Dig Syst 2022, Volume 12

Patients with functional bowel disorder have disaccharidase deficiency.

Saria Dbar

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Background: Functional bowel disorder (FBD) may be caused by a decrease in disaccharidase activity. Thus, the timely diagnosis of disaccharidase deficiency could lead to a better prognosis in patients with this condition. At present, few studies have been conducted on intestinal disaccharidase activity. Most of these studies have been on lactase activity in both adults and children [10-12] and sucrose activity in children [13]. Maltase and glucoamylase activities have not been studied in adults. Therefore, the aim of this study was to determine the value of intestinal disaccharidases glucoamylase, maltase, sucrose, and lactase in understanding the etiology and pathogenesis of FBDs.

Aim: To determine the potential value of intestinal disaccharidases glucoamylase, maltase, sucrose, and lactase in understanding the etiology and pathogenesis of FBD.

Methods: A total of 82 FBD patients were examined. According to the Rome IV criteria (2016), 23 patients had diarrhea-predominant irritable bowel syndrome (IBS), 33 had functional diarrhea, 10 had constipation-predominant IBS, 4 had functional constipation, and 12 had mixed IBS. The Dahlqvist method was used to measure disaccharidase activity in the brush-border membrane of mature enterocytes of the small intestine, in duodenal biopsies obtained during esophagogastroduodenoscopy.

Results: Lactase deficiency was detected in 86.5% of patients, maltase deficiency in 48.7%, sucrose deficiency in 50%, and glucoamylase deficiency in 84.1%. The activities of all enzymes were reduced in 31.7% of patients with FBD. The low activity of enzymes involved in membrane digestion in the small intestine was found in 95.1% (78) of patients.

Conclusion: In 78 of the 82 patients with FBD, gastrointestinal symptoms were associated with disaccharidase deficiency

Biography

Saria Dbar was born in Abkhazia in 1990. In 2014 she graduated the medical University in Russia. After graduation she successfully completed her medical internship in gastroenterology at the Institute of Gastroenterology in Russia. During her study, she showed great scientific interest in the field of diseases of the small intestine. She is working on her PhD dissertation at the moment. For the last 7 years she has been studying disaccharidases activity of small bowel in patients with celiac disease, ulcerative colitis, Crohn's disease and functional bowel disorder. She has an extended experience in participation in a significant number of international and local scientific conferences. She is an annual speaker at the Russian Gastroenterological conference. She developed and presented scientific data at European Gastroenterology Week in 2019. Altogether, Saria is an author of 9 scientific articles and a participant of for more than 20 conferences.

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Vikas Leelavati Balasaheb Jadhav, J Gastrointest Dig Syst 2022, Volume 12

Sonography of the Neoplastic Diseases in the Gastro-Intestinal Tract

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Sonography of the Gastro-Intestinal Tract can reveal intra-mural tumours, Intra-mural haematoma, Lesions of Ampulla of Vater like benign & infiltrating mass lesions. Neoplastic lesion is usually a segment involvement, & shows irregularly thickened, hypo echoic & aperistaltic wall with loss of normal layering pattern. It is usually a solitary stricture & has eccentric irregular luminal narrowing. It shows loss of normal Gut Signature. Enlargement of the involved segment seen. Shouldering effect at the ends of stricture is most common feature. Enlarged lymph nodes around may be seen. Primary arising from wall itself & secondary are invasion from peri-Ampullary malignancy or distant metastasis. All these cases are compared & proved with gold standards like surgery & endoscopy.

Some extra efforts taken during all routine or emergent ultrasonography examinations can be an effective non-invasive method to diagnose primarily hitherto unsuspected benign & malignant Gastro-Intestinal Tract lesions, so should be the investigation of choice.

Biography

Dr. Vikas Leelavati BalaSaheb Jadhav has completed Post Graduation in Radiology in 1994. He has a 25 Years of experience in the field of Gastro-Intestinal Tract Ultrasound & Diagnostic as well Therapeutic Interventional Sonography. He is the Pioneer of Gastro-Intestinal Tract Sonography, especially Gastro-Duodenal Sonography. He has delivered many Guest Lectures in Indian as well International Conferences in nearly 27 countries as an Invited Guest Faculty, since March 2000. He is a Consultant Radiologist & the Specialist in Conventional as well Unconventional Gastro-Intestinal Tract Ultrasound & Diagnostic as well Therapeutic Interventional Sonologist in Pune, India.

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