ISSN 2307-8960 (online)

World Journal of *Clinical Cases*

World J Clin Cases 2023 April 26; 11(12): 2582-2854

Published by Baishideng Publishing Group Inc

World Journal of Clinical Cases

Contents

Thrice Monthly Volume 11 Number 12 April 26, 2023

REVIEW

2582 Controversies in the management of acute pancreatitis: An update
Manrai M, Dawra S, Singh AK, Jha DK, Kochhar R

2604 Classification of osteogenesis imperfecta: Importance for prophylaxis and genetic counseling
Panzaru MC, Florea A, Caba L, Gorduza EV

MINIREVIEWS

2621 Emerging role of dual biologic therapy for the treatment of inflammatory bowel disease
McCormack MD, Wahedna NA, Aldulaimi D, Hawker P

2631 Pancreatic cancer and depression
Michoglou K, Ravinthiranathan A, San Ti S, Dolly S, Thillai K

2637 Mediastinal lesions in children
Çinar HG, Gulmez AO, Üner Ç, Aydin S

2657 Exit strategies in inflammatory bowel disease: Looking beyond anti-tumor necrosis factors
Crispino F, Michielan A, Grova M, Tieppo C, Mazza M, Rogger TM, Armelao F

2670 Medicinal cannabis products for the treatment of acute pain
Fiore M, Alfieri A, Di Franco S, Petrou S, Damiani G, Pace MC

2677 Role of in vitamin D in irritable bowel syndrome
Yu XL, Wu QQ, He LP, Zheng YF

ORIGINAL ARTICLE

Retrospective Cohort Study

2684 Analysis of oxidative stress and antioxidative potential in premature ovarian insufficiency
Kakinuma K, Kakinuma T

Retrospective Study

2694 Surgical management of pituitary adenoma during pregnancy
Jia XY, Guo XP, Yao Y, Deng K, Lian W, Xing B

2708 Role of pre-existing incomplete intestinal metaplasia in gastric adenocarcinoma: A retrospective case series analysis
Bogdanova I, Polaka I, Aleksandraviča I, Dzērve Z, Anarkulova L, Novika V, Tolmanis I, Leja M

World Journal of Clinical Cases

Thrice Monthly Volume 11 Number 12 April 26, 2023

Contents

Observational Study

2716 Severe/critical COVID-19 early warning system based on machine learning algorithms using novel imaging scores

Li QY, An ZY, Pan ZH, Wang ZZ, Wang YR, Zhang XG, Shen N

2729 Mediating effect of mindfulness level on the relationship between marital quality and postpartum depression among primiparas

Yang J, Lin XZ, Guo QW, Wang CL, Yang RY, Zhang JW, Zeng Y

2740 Ferric carboxymaltose for anemia in Crohn's disease patients at a tertiary center: A retrospective observational cohort study

Siqueira NSN, Pascoal LB, Rodrigues BL, de Castro MM, Martins ASC, Araújo DOS, Gomes LEM, Camargo MG, Ayrizono MLS, Leal RF

META-ANALYSIS

2753 Is metaphyseal ulnar shortening osteotomy superior to diaphyseal ulnar shortening osteotomy in the treatment of ulnar impaction syndrome? A meta-analysis

Deng HL, Lu ML, Tang ZM, Mao QL, Zhao JM

2766 Relationship between body mass index and short-term postoperative prognosis in patients undergoing colorectal cancer surgery

Li Y, Deng JJ, Jiang J

CASE REPORT

2780 Cardiac amyloidosis presenting as pulmonary arterial hypertension: A case report

Gao M, Zhang WH, Zhang ZG, Yang N, Tong Q, Chen LP

2788 Short-term outcome of total knee replacement in a patient with hemophilia: A case report and review of literature

Yin DL, Lin JM, Li YH, Chen P, Zeng MD

2796 Modified inferior oblique anterior transposition for dissociated vertical deviation combined with superior oblique palsy: A case report

Zong Y, Wang Z, Jiang WL, Yang X

2803 Treatment of talipes equinovarus after triceps surae intramuscular hemangioma surgery by Ilizarov technology in adults: A case report

Chen ZX, Wang MY, Zhang C, Ding ZQ, Chen W

2811 Open surgery: Still a great option to treat patients with post-traumatic arteriovenous fistulas: A case report

Kalinin R, Suchkov I, Mzhavanadze N, Borisova Y, Panin I

2817 Recovery from Bell's palsy after treatment using uncultured umbilical cord-derived mesenchymal stem cells: A case report

Ahn H, Jung WJ, Lee SY, Lee KH

World Journal of Clinical Cases

Thrice Monthly Volume 11 Number 12 April 26, 2023

Contents

2825 Pancreatic neuroendocrine tumor detected by technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography/computed tomography: A case report

Liu CJ, Yang HJ, Peng YC, Huang DY

2832 Furazolidone-induced pulmonary toxicity in *Helicobacter pylori* infection: Two case reports

Ye Y, Shi ZL, Ren ZC, Sun YL

2839 Efficacy of anlotinib combined with radioiodine to treat scalp metastasis of papillary thyroid cancer: A case report and review of literature

Zhang LY, Cai SJ, Liang BY, Yan SY, Wang B, Li MY, Zhao WX

2848 Endoscopic ultrasound-guided transrectal drainage of a pelvic abscess after Hinchey II sigmoid colon diverticulitis: A case report

Drnovšek J, Čebron Ž, Grosek J, Janež J

World Journal of Clinical Cases

Thrice Monthly Volume 11 Number 12 April 26, 2023

Contents

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Mohamed Eltayeb Abdelrahman Naiem, MBBS, MD, Assistant Professor, Surgeon, Department of Surgery, Faculty of Medicine, University of Khartoum, Khartoum 102, Sudan. m-altayeb@live.com

AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (*WJCC*, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING

The *WJCC* is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, PubMed, PubMed Central, Scopus, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The 2022 Edition of Journal Citation Reports® cites the 2021 impact factor (IF) for *WJCC* as 1.534; IF without journal self cites: 1.491; 5-year IF: 1.599; Journal Citation Indicator: 0.28; Ranking: 135 among 172 journals in medicine, general and internal; and Quartile category: Q4. The *WJCC*'s CiteScore for 2021 is 1.2 and Scopus CiteScore rank 2021: General Medicine is 443/826.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: *Ying-Yi Yuan*; **Production Department Director:** *Xu Guo*; **Editorial Office Director:** *Jin-Lei Wang*.

NAME OF JOURNAL
World Journal of Clinical Cases

ISSN
ISSN 2307-8960 (online)

LAUNCH DATE
April 16, 2013

FREQUENCY
Thrice Monthly

EDITORS-IN-CHIEF
Bao-Gan Peng, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/2307-8960/editorialboard.htm

PUBLICATION DATE
April 26, 2023

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

E-mail: bpgoffice@wjgnet.com https://www.wjgnet.com

World Journal of Clinical Cases

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

World J Clin Cases 2023 April 26; 11(12): 2825-2831

DOI: 10.12998/wjcc.v11.i12.2825

ISSN 2307-8960 (online)

CASE REPORT

Pancreatic neuroendocrine tumor detected by technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography/computed tomography: A case report

Chang-Jiang Liu, Hua-Jun Yang, Yan-Chun Peng, De-Yu Huang

Specialty type: Medicine, research and experimental

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

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): B
Grade C (Good): C, C
Grade D (Fair): 0
Grade E (Poor): E

P-Reviewer: Akbulut S, Turkey; Ampollini L, Italy; Saglam S, Turkey

Received: January 19, 2023
Peer-review started: January 19, 2023
First decision: February 2, 2023
Revised: February 10, 2023
Accepted: March 24, 2023
Article in press: March 24, 2023
Published online: April 26, 2023

Chang-Jiang Liu, Department of Nuclear Medicine, Xingyi People's Hospital, Xingyi 562400, Guizhou Province, China

Hua-Jun Yang, Department of Pulmonary and Critical Care Medicine, Xingyi People's Hospital, Xingyi 562400, Guizhou Province, China

Yan-Chun Peng, Department of Hepatobiliary, Pancreatic and Splenic Surgery, Xingyi People's Hospital, Xingyi 562400, Guizhou Province, China

De-Yu Huang, Department of Pathology, Xingyi People's Hospital, Xingyi 562400, Guizhou Province, China

Corresponding author: Chang-Jiang Liu, MD, Academic Fellow, Department of Nuclear Medicine, Xingyi People's Hospital, No. 1 Yingxiong Road, Xingyi 562400, Guizhou Province, China. liucj_009@163.com

Abstract

BACKGROUND

Pancreatic neuroendocrine tumors (NETs) account for about 1%–2% of pancreatic tumors and about 8% of all NETs. Computed tomography (CT), magnetic resonance imaging, and endoscopic ultrasound are common imaging modalities for the diagnosis of pancreatic NETs. Furthermore, somatostatin receptor imaging is of great value for diagnosing pancreatic NETs. Herein, we report the efficacy of technetium-99m methoxy-2-isobutylisonitrile (^{99m}Tc-MIBI) single photon emission CT (SPECT)/CT for detecting pancreatic NETs.

CASE SUMMARY

A 57-year-old woman presented to our hospital with a 1-d history of persistent upper abdominal distending pain. The distending pain in the upper abdomen was aggravated after eating, with nausea and retching. Routine blood test results showed a high neutrophil percentage, low leukomonocyte and monocyte percentages, and low leukomonocyte and eosinophil counts. Amylase, liver and kidney function, and tumor markers alpha-fetoprotein, carcinoembryonic antigen, and cancer antigen (CA) 125, CA72-4, CA19-9, and CA153 were normal. Abdominal CT showed a mass, with multiple calcifications between the pancreas and the spleen. The boundary between the mass and the pancreas and spleen was poorly defined. Contrast-enhanced CT revealed that the upper abdominal mass

was unevenly and gradually enhanced. ^{99m}Tc-MIBI SPECT/CT revealed that a focal radioactive concentration, with mild radioactive concentration extending into the upper abdominal mass, was present at the pancreatic body and tail. The ^{99m}Tc-MIBI SPECT/CT manifestations were consistent with the final pathological diagnosis of pancreatic NET.

CONCLUSION

^{99m}Tc-MIBI SPECT/CT appears to be a valuable tool for detecting pancreatic NETs.

Key Words: Neuroendocrine tumors; Pancreas; Tc-99m-Methoxy-2-isobutylisonitrile; Single photon emission computed tomography; X-ray computed tomography; Case report

Core Tip: Neuroendocrine tumors (NETs) are rare. The gastroenteropancreatic tract is the most common site for NETs. Pancreatic NETs account for about 1%-2% of pancreatic tumors and about 8% of all NETs. Endoscopic ultrasound, computed tomography (CT), and magnetic resonance imaging are common imaging modalities for the diagnosis of pancreatic NETs. In addition, somatostatin receptor imaging is of great value for the diagnosis of pancreatic NETs. We experienced a case of pancreatic NET detected by technetium-99m methoxy-2-isobutylisonitrile (^{99m}Tc-MIBI) single-photon emission CT/CT, which was consistent with the final pathological diagnosis of pancreatic NET.

Citation: Liu CJ, Yang HJ, Peng YC, Huang DY. Pancreatic neuroendocrine tumor detected by technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography/computed tomography: A case report. *World J Clin Cases* 2023; 11(12): 2825-2831

URL: https://www.wjgnet.com/2307-8960/full/v11/i12/2825.htm

DOI: https://dx.doi.org/10.12998/wjcc.v11.i12.2825

INTRODUCTION

Neuroendocrine tumors (NETs) are relatively rare tumors arising from cells in the diffuse neuroendocrine system, occurring mainly in the gastroenteropancreatic (GEP) tract and lungs[1]. The GEP tract is the most common site for NETs[2]. Pancreatic NETs account for about 1%-2% of all pancreatic tumors [3] and about 8% of all NETs[4]. The diagnostic imaging modalities for pancreatic NETs include computed tomography (CT), magnetic resonance imaging, endoscopic ultrasound, and somatostatin receptor imaging[5]. However, the application of technetium-99m methoxy-2-isobutylisonitrile (^{99m}Tc-MIBI) single photon emission CT (SPECT)/CT for detecting pancreatic NET has not been reported.

CASE PRESENTATION

Chief complaints

A 57-year-old woman presented with upper abdominal distending pain lasting 1 d.

History of present illness

The patient had persistent pain that was aggravated after eating, accompanied by nausea and retching. Her abdominal CT findings revealed an upper abdominal tumor originating from the spleen or pancreas. Therefore, she was admitted to the hospital for further examination and treatment.

History of past illness

The patient underwent traumatic abdominal exploratory surgery more than 30 years ago.

Physical examination

An old surgical scar with a longitudinal length of about 6 cm was observed on the upper abdomen. A mass was palpable in the left-upper abdomen, which was hard, poor in mobility, and slightly tender.

Laboratory examinations

Routine blood test results showed a high neutrophil percentage, low lymphocyte and monocyte percentages, and a low eosinophil count. Routine urine and stool test results were normal. The levels of

electrolytes (sodium, chlorine, calcium, and magnesium) were normal. Amylase, liver and kidney function, and tumor markers alpha-fetoprotein, carcinoembryonic antigen, carbohydrate antigen (CA) 125, CA72-4, CA19-9, and CA153 were also normal.

Imaging examinations

CT and contrast-enhanced CT of the abdomen: Abdominal CT showed a mass with multiple calcifications between the pancreas and the spleen. The boundary between the mass and the pancreas and spleen was poorly defined (Figure 1). The maximum cross section of the mass was about 9.0 cm × 8.6 cm. Contrast-enhanced CT revealed that the upper abdominal mass was unevenly and gradually enhanced (Figure 2).

Abdominal ^{99m}Tc-MIBI SPECT/CT: ^{99m}Tc-MIBI SPECT/CT was performed 5 d after contrast-enhanced CT imaging. Scanning began 30 min after the injection of 740 MBq of ^{99m}Tc-MIBI. Abdominal ^{99m}Tc-MIBI SPECT/CT was performed using a PRECEDENCE SPECT/CT (Philips Medical Systems, Eindhoven, the Netherlands) system. CT scanning was performed in a spiral mode over the entire abdomen at 250 mAs per slice, 120 Kv, and with a slice thickness of 3.0 mm. Immediately after CT scanning, SPECT acquisition of the abdomen was performed. The SPECT system was equipped with low-energy, high-resolution parallel-hole collimators. The SPECT acquisition followed an elliptical orbit, with a step-and-shoot acquisition of 64 angles over 360° (180° per detector) and an acquisition time of 20 s per frame. The SPECT data were reconstructed with attenuation correction from CT acquisition and iterative reconstruction *via* AutoSPECT Pro software with astonish, four iterations, and 16 subsets. The ^{99m}Tc-MIBI SPECT/CT fused images were processed using Fusion Viewer (version 2.1) procedures. The SPECT slice thickness was the same as that of CT.

The ^{99m}Tc-MIBI SPECT/CT images showed the presence of a focal radioactive concentration, with mild radioactive concentration extending into the upper abdominal mass at the pancreatic body and tail (Figure 3).

FINAL DIAGNOSIS

The pathology of the pancreatic lesion indicated a well-differentiated pancreatic NET by hematoxylin and eosin staining (Figure 4A and B). The pathology of the spleen showed normal spleen cells by hematoxylin and eosin staining (Figure 4C). Immunohistochemical analysis showed that the tumor cells were positive for insulinoma-associated protein 1, synaptophysin, and cluster of differentiation 56 (Figure 5). The Ki-67 (marker of proliferation Ki-67) proliferative index was assessed at 10% (Figure 6).

TREATMENT

Two days after ^{99m}Tc-MIBI SPECT/CT, the pancreatic body and tail, the upper abdominal mass discovered by CT (the mass with multiple calcifications between the pancreas and the spleen), and the spleen were excised. During the operation, a pancreatic lesion was seen to expand outward and extend into the spleen. This was inconsistent with the abdominal CT findings.

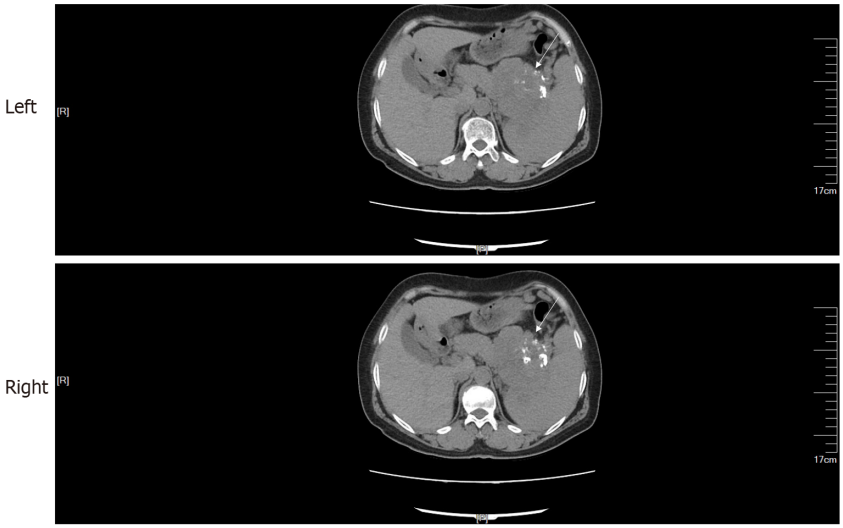
OUTCOME AND FOLLOW-UP

The patient was followed up 35 d after surgery. She complained of dull pain in her upper abdomen. Abdominal CT results showed encapsulated effusion in the surgical area (Figure 7), with no obvious abnormality in the remaining area. The patient's condition improved after ultrasound-guided closed abdominal drainage.

DISCUSSION

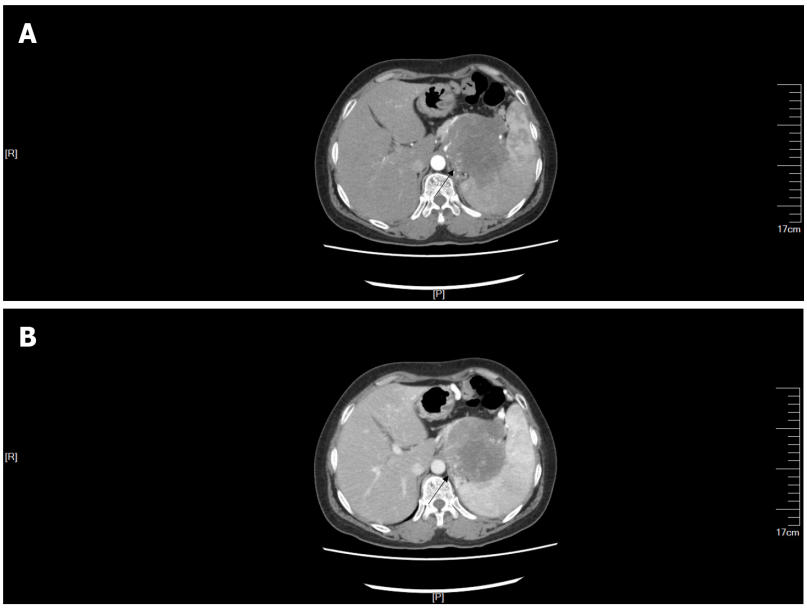
Pancreatic NETs are often divided into functional and nonfunctional pancreatic NETs. The majority of pancreatic NETs are nonfunctional[5]. The symptoms of a nonfunctional pancreatic NET include abdominal or back pain, nausea, vomiting, pancreatitis, and obstructive jaundice[5]. Patients with functional pancreatic NETs often present with symptoms caused by hormone production of the tumor, leading to an early diagnosis[6].

Endoscopic ultrasound, CT, and magnetic resonance imaging are common imaging modalities for the diagnosis of pancreatic NETs. In addition, somatostatin receptor imaging is of great value for the diagnosis of pancreatic NETs[7], but the method is not easily available in our hospital.



DOI: 10.12998/wjcc.v11.i12.2825

Figure 1 Abdominal computed tomography. A mass (arrow) with multiple calcifications between the pancreas and the spleen was observed. The boundary between the mass and the pancreas and spleen was poorly defined.



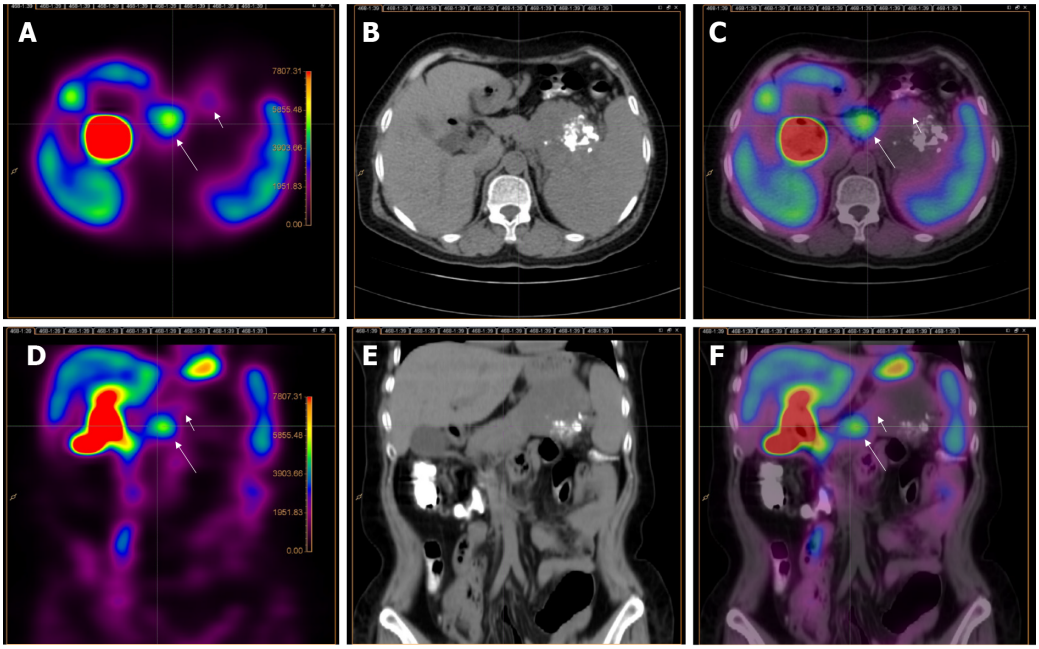
DOI: 10.12998/wjcc.v11.i12.2825

Figure 2 Abdominal computed tomography with contrast showed that the upper abdominal mass was unevenly and gradually enhanced (arrow). A: Arterial time; B: Venous time.

More than 90% of well-differentiated GEP NETs express somatostatin receptors[8]. Functional imaging technique of gallium-68 dota-octreotate (^{68}Ga-DOTATATE) positron emission tomography (PET)/CT uses radiolabeled somatostatin analogs to localize NETs. Research showed that the sensitivity of ^{68}Ga-DOTATATE PET/CT was about 95% for detecting pancreatic NETs[7]. Unlike ^{68}Ga-DOTATATE, ^{99m}Tc-MIBI is a nonspecific tumor imaging agent. However, compared with ^{68}Ga-DOTATATE PET/CT, ^{99m}Tc-MIBI SPECT/CT is a relatively cheap and easily available imaging modality. Herein, we present a case of pancreatic NETs detected by ^{99m}Tc-MIBI SPECT/CT.

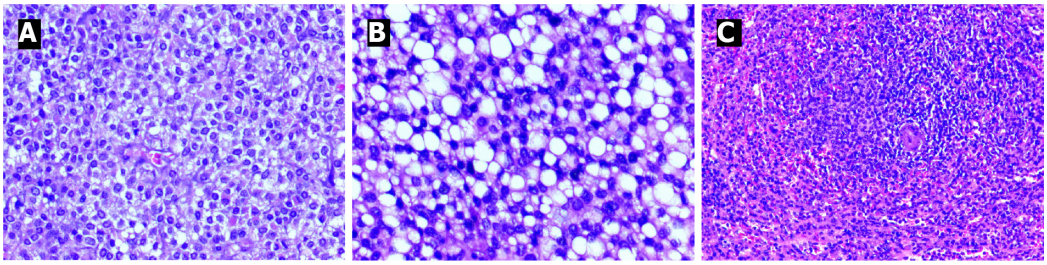
^{99m}Tc-MIBI is a lipophilic univalent cationic agent. Driven by cytoplasmic and mitochondrial transmembrane potential gradients, ^{99m}Tc-MIBI penetrates reversibly into the cytoplasm and concentrates in mitochondria[9]. In one study, there were greater electrical gradients from outside the cell to the mitochondria in carcinoma cells than in normal epithelial cells, and the uptake of ^{99m}Tc-MIBI increased tenfold in carcinoma cells[9].

^{99m}Tc-MIBI SPECT/CT may be a useful tool for detecting lymph node and lung metastases in patients with differentiated thyroid carcinoma[10]. Additionally, ^{99m}Tc-MIBI SPECT can be used to differentiate benign from malignant solitary pulmonary nodules and thyroid nodes[11,12]. Lu *et al*[13] reported a



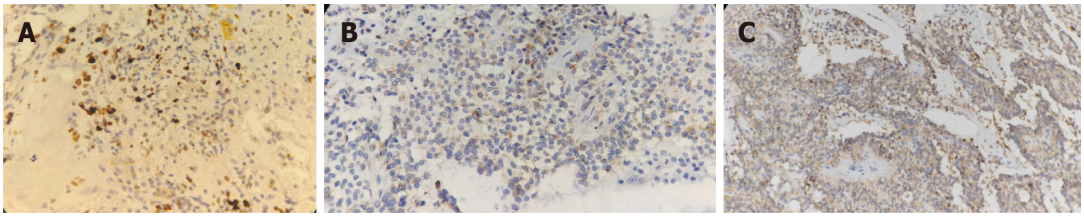
DOI: 10.12998/wjcc.v11.i12.2825

Figure 3 Abdominal technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography/computed tomography. Technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography (SPECT)/CT of the abdomen showed that a focal radioactive concentration (long arrow) with mild radioactive concentration (short arrow) was present on SPECT (A, D) and technetium-99m methoxy-2-isobutylisonitrile SPECT/CT fusion images (C, F) at the sites corresponding to the pancreatic body and tail and the upper abdominal mass discovered by CT (B, E). A-C: Transverse axis; D-F: Coronal axis.



DOI: 10.12998/wjcc.v11.i12.2825

Figure 4 Hematoxylin and eosin staining. A: The pathology of the focal radioactive concentration of the pancreatic body and tail shown on technetium-99m methoxy-2-isobutylisonitrile single photon emission computed tomography (CT)/CT indicated a well-differentiated pancreatic neuroendocrine tumor *via* hematoxylin and eosin staining (× 200); B: The pathology of the upper abdominal mass shown on CT indicated a well-differentiated pancreatic neuroendocrine tumor *via* hematoxylin and eosin staining (× 200); C: Normal spleen cells observed after hematoxylin and eosin stain (× 100).

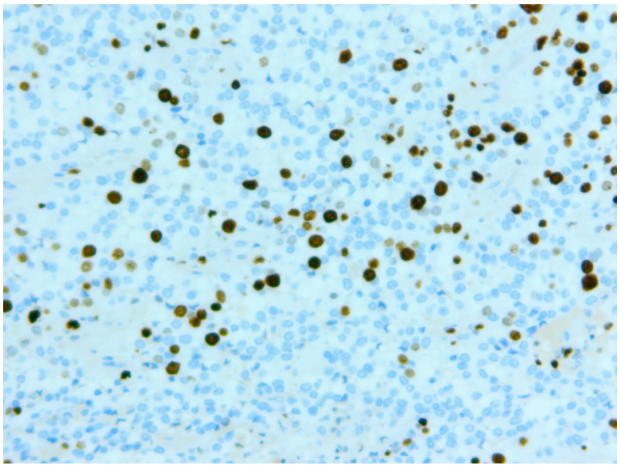


DOI: 10.12998/wjcc.v11.i12.2825

Figure 5 Immunohistochemical staining of tumor cells. A: Positive for insulinoma-associated protein 1; B: Positive for synaptophysin; C: Positive for cluster of differentiation 56 (× 200).

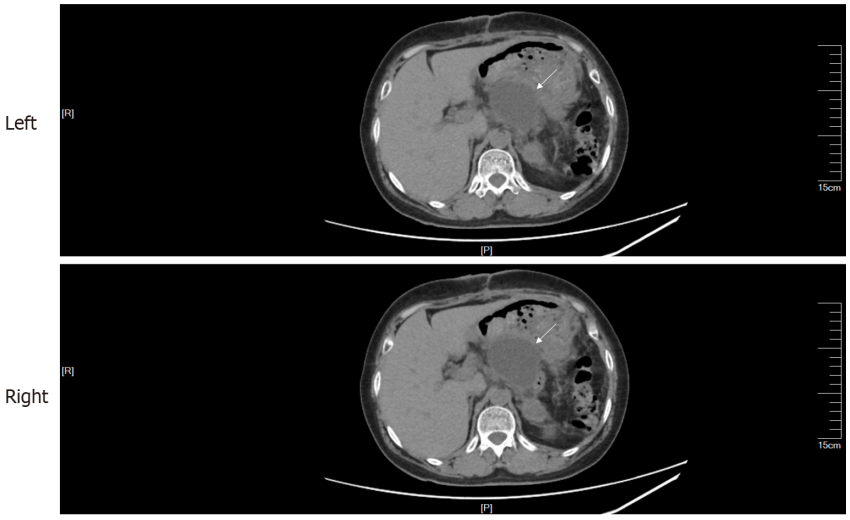
case of mediastinal typical carcinoid tumor detected by ^{99m}Tc-MIBI SPECT/CT.

Our patient was a 57-year-old woman with symptoms that started 1 d previously. The age for the occurrence of pancreatic NETs is equivalent to the mean age (57-58 years) previously identified for this type of tumor[5]. The patient's abdominal CT showed a mass with multiple calcifications between the



DOI: 10.12998/wjcc.v11.i12.2825

Figure 6 Immunohistochemical staining (EnVision technique) showed Ki-67 (marker of proliferation Ki-67) proliferative index of 10% (× 400).



DOI: 10.12998/wjcc.v11.i12.2825

Figure 7 Encapsulated effusion (arrow) in the surgical area.

pancreas and spleen. The boundary between the mass and pancreas and spleen was poorly defined. These findings indicated that the tumor might have originated from the spleen or pancreas. Contrast-enhanced CT revealed that the mass was unevenly and gradually enhanced. This indicated the possibility of a malignant tumor. However, ^{99m}Tc-MIBI SPECT/CT showed the presence of a focal radioactive concentration, with mild radioactive concentration extending into the upper abdominal mass at the pancreatic body and tail. This finding strongly suggested that the upper abdominal mass originated from the pancreas. The CT manifestations of the pancreatic tissue corresponding to the focal radioactive concentration were solid and homogenous. A previous study reported that pancreatic NETs tended to appear as solid and homogenous lesions on CT imaging[7]. In our case study, the ^{99m}Tc-MIBI SPECT/CT manifestations were consistent with the final pathological diagnosis of pancreatic NET.

CONCLUSION

^{99m}Tc-MIBI SPECT/CT appears to be valuable for diagnosing pancreatic NETs. However, subsequent large-sample studies are needed to confirm this finding.

FOOTNOTES

Author contributions: Liu CJ and Yang HJ conceived the idea; Liu CJ designed the research; Liu CJ, Yang HJ, Peng YC, and Huang DY analyzed the data and wrote the manuscript; all authors have read and agreed to the published version of the manuscript.

Informed consent statement: Informed consent was obtained from the subject at the time of admission.

Conflict-of-interest statement: All authors report no relevant conflicts of interest for this article.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

Country/Territory of origin: China

ORCID number: Chang-Jiang Liu 0000-0002-9622-4740; Hua-Jun Yang 0000-0002-5057-5705.

S-Editor: Zhao S
L-Editor: Filipodia
P-Editor: Zhao S

REFERENCES

1 **Ohmoto A**, Morizane C. Genomic Profiles and Current Therapeutic Agents in Neuroendocrine Neoplasms. *Curr Drug Targets* 2020; **21**: 389-405 [PMID: 31633473 DOI: 10.2174/1389450119666191014105211]
2 **Iabichino G**, Di Leo M, Arena M, Rubis Passoni GG, Morandi E, Turpini F, Viaggi P, Luigiano C, De Luca L. Diagnosis, treatment, and current concepts in the endoscopic management of gastroenteropancreatic neuroendocrine neoplasms. *World J Gastroenterol* 2022; **28**: 4943-4958 [PMID: 36160644 DOI: 10.3748/wjg.v28.i34.4943]
3 **Ito T**, Sasano H, Tanaka M, Osamura RY, Sasaki I, Kimura W, Takano K, Obara T, Ishibashi M, Nakao K, Doi R, Shimatsu A, Nishida T, Komoto I, Hirata Y, Nakamura K, Igarashi H, Jensen RT, Wiedenmann B, Imamura M. Epidemiological study of gastroenteropancreatic neuroendocrine tumors in Japan. *J Gastroenterol* 2010; **45**: 234-243 [PMID: 20058030 DOI: 10.1007/s00535-009-0194-8]
4 **Dasari A**, Shen C, Halperin D, Zhao B, Zhou S, Xu Y, Shih T, Yao JC. Trends in the Incidence, Prevalence, and Survival Outcomes in Patients With Neuroendocrine Tumors in the United States. *JAMA Oncol* 2017; **3**: 1335-1342 [PMID: 28448665 DOI: 10.1001/jamaoncol.2017.0589]
5 **Scott AT**, Howe JR. Evaluation and Management of Neuroendocrine Tumors of the Pancreas. *Surg Clin North Am* 2019; **99**: 793-814 [PMID: 31255207 DOI: 10.1016/j.suc.2019.04.014]
6 **Halfdanarson TR**, Rabe KG, Rubin J, Petersen GM. Pancreatic neuroendocrine tumors (PNETs): incidence, prognosis and recent trend toward improved survival. *Ann Oncol* 2008; **19**: 1727-1733 [PMID: 18515795 DOI: 10.1093/annonc/mdn351]
7 **Hu HF**, Li Z, Chen K, Liu MQ, Ye Z, Chen XM, Zhang Y, Yu XJ, Xu XW, Ji SR. Multimodality imaging differentiation of pancreatic neuroendocrine tumors and solid pseudopapillary tumors with a nomogram model: A large single-center study. *Front Surg* 2022; **9**: 970178 [PMID: 36277293 DOI: 10.3389/fsurg.2022.970178]
8 **Grey N**, Silosky M, Lieu CH, Chin BB. Current status and future of targeted peptide receptor radionuclide positron emission tomography imaging and therapy of gastroenteropancreatic-neuroendocrine tumors. *World J Gastroenterol* 2022; **28**: 1768-1780 [PMID: 35633909 DOI: 10.3748/wjg.v28.i17.1768]
9 **Moretti JL**, Hauet N, Caglar M, Rebillard O, Burak Z. To use MIBI or not to use MIBI? *Eur J Nucl Med Mol Imaging* 2005; **32**: 836-842 [PMID: 15902437 DOI: 10.1007/s00259-005-1840-x]
10 **Okudan B**, Seven B, Gülaldı NCM, Çapraz M, Açıkgöz Y. The Value of (99m)Tc-MIBI SPECT/CT in the Postoperative Assessment of Patients with Differentiated Thyroid Carcinoma. *Curr Med Imaging* 2022; **18**: 404-408 [PMID: 34749623 DOI: 10.2174/1573405617666211108154028]
11 **Xia G**, An C, Ming Z, Guo H, Liu L, Li Y. 18F-FDG-PET/CT versus 99Tcm-MIBI-SPECT: which is better for detection of solitary pulmonary nodules ? *J BUON* 2017; **22**: 1246-1251 [PMID: 29135109]
12 **Schenke SA**, Campennì A, Tuncel M, Bottoni G, Sager S, Bogovic Crncic T, Rozic D, Görges R, Özcan PP, Groener D, Hautzel H, Klett R, Kreissl MC, Giovanella L. Diagnostic Performance of (99m)Tc-Methoxy-Isobuty-Isonitrile (MIBI) for Risk Stratification of Hypofunctioning Thyroid Nodules: A European Multicenter Study. *Diagnostics (Basel)* 2022; **12** [PMID: 35741167 DOI: 10.3390/diagnostics12061358]
13 **Lu C**, Wang Z, Wang G, Wang X, Liu X. Superior mediastinal typical carcinoid detected by 99mTc-MIBI SPECT/CT imaging: A case report. *Medicine (Baltimore)* 2017; **96**: e9457 [PMID: 29384931 DOI: 10.1097/MD.0000000000009457]

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