Case Report

Diffuse Type Autoimmune Pancreatitis: The First Case Report in Thailand

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Background: *Autoimmune pancreatitis (AIP) is a recently-recognized form of pancreatitis mimicking pancreatic cancer (PaC) but treatable with corticosteroid. There is one report of focal-type AIP in Thailand. Here we presented the first case report of diffuse-type AIP.*
Case Report: *A 76-year-old man presented with 10-day obstructive jaundice. Computed tomography (CT) showed obstructive jaundice from diffusely swollen pancreas, which had a characteristic capsule-like rim non-enhancement pattern of AIP. Serum immunoglobulin G4 (IgG4) was elevated of 468 mg/dL. Endoscopic ultrasound-guided fine needle aspiration demonstrated no PaC. Prednisolone 40 mg/day was started. Jaundice disappeared in 2 weeks and follow-up CT demonstrated normalization of swollen pancreas.*
Conclusion: *Diffuse-type AIP does exist in Thailand. Recognition of this condition is critical to avoid misdiagnosis of PaC or unnecessary surgery.*

Keywords: *Autoimmune pancreatitis, Diffuse type, IgG4*

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Autoimmune pancreatitis (AIP) is a recently-recognized form of pancreatitis. The disease has now gained much attention because of the presentation as diffuse or focal pancreatic mass mimicking pancreatic cancer (PaC). However, the pancreatic mass of AIP can totally be resolved with only a short-course corticosteroid treatment. Hence, unnecessary surgery can be avoided. Since the first introduction of the nomenclature of AIP by Yoshida in 1995[1], there is the recognition that elevated serum immunoglobulin G, subclass 4 (IgG4) is a hallmark of AIP[2] and the concept accepted that AIP is a part of IgG4-related systemic sclerosing disease[3]. AIP has now been well-established worldwide with many case reports and many practice guidelines on the diagnosis and management of AIP[4-8]. In Thailand, AIP is believed to be rare. There has been only one report by Chaitheerakit, et al in 2008[9], reporting 4 cases of focal type AIP. In the present report, the authors describe the first case report of diffuse type AIP.

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Case Report

A 76-year-old retired businessman presented with obstructive jaundice and dark urine for 10 days. He denied abdominal pain, weight loss, achloric stool and any use of over the counter or herbal drugs. His underlying diseases were well-controlled hypertension and impaired fasting glucose. He had been diagnosed as prostatic carcinoma, which was treated surgically 6 years ago.

On his visit, he had no fever, but appeared mildly icteric. Other results of physical examination were unremarkable, except palpable soft liver 2 cm below right costal margin. Investigations revealed a hemoglobin of 11.1 g/dL, total leukocyte of 5,250 cells/mm^3 (70% neutrophil, 17% lymphocyte, 8% monocyte, 4% eosinophil and 1% basophil), and platelet count of 182,000 cells/mm^3. Total bilirubin was 5.1 mg/dL (normal 0.3–1.2) and direct bilirubin was 4.8 mg/dL (normal 0–0.5). Aspartate aminotransferase (AST) was 220 U/L (normal 0-37), alanine aminotransferase (ALT) was 261

U/L (normal 0-40), alkaline phosphatase was 300 U/L (normal 39 -117), albumin was 4.0 g/dL (normal 3.5-5) and globulin was 3.4 g/dL (normal 1.5-3.5).

The provisional diagnosis was obstructive jaundice. Thus, multi-detector computed tomography (MDCT) was performed. A diffusely enlarged pancreas with poor enhancement was seen (Fig. 1A and 1B). Furthermore, a capsule-like rim enhancement was clearly seen in pancreatic tail (Fig. 1C and 1D). Findings were suggestive for diffuse type of AIP causing biliary obstruction.

Further investigation revealed an elevated serum IgG4 of 468 mg/dL. Antinuclear antibody (ANA) was positive at 1:40 (fine-speckled pattern). Since AIP is rare and exclusion of pancreatic malignancies is critical, the patient was scheduled for endoscopic ultrasonography (EUS) and, if necessary, fine-needle aspiration (FNA) to exclude PaC and pancreatic lymphoma. EUS revealed an enlarged pancreas with coarse heterogenous echogenicity of pancreatic parenchyma. There was no definite evidence of chronic pancreatitis or PaC. Multiple small subcentimeter paripancreatic lymph nodes were also seen. EUS-guided FNA of the pancreas was done. Histopathology subsequently showed sclerotic stroma with inflammation but without definite lymphoplasmacytic background. No malignancy cell was seen. Thus, the most likely diagnosis was AIP, diffuse type. The patient was treated with prednisolone 40 mg per day for 2 weeks. Jaundice gradually disappeared and follow-up of liver function tests 2 weeks after steroid treatment showed total bilirubin of 1.8 mg/dL, direct bilirubin of 1.1 mg/dL. AST was 44 U/L, ALT was 199 U/L, alkaline phosphatase was 136 U/L. Albumin was 3.6 g/dL and globulin was 2.6 g/dL. Prednisolone 40 mg/day was continued for 2 more weeks before being tapered 10 mg every 2 weeks. Follow-up of CT scan 2 months after steroid treatment was performed.

Follow-up CT scan showed that the diffusely swollen pancreas had returned to normal size (Fig. 2). Thus, the diagnosis of AIP was definite. The patient was now doing well and prednisolone was being tapered within the next 1-2 months.

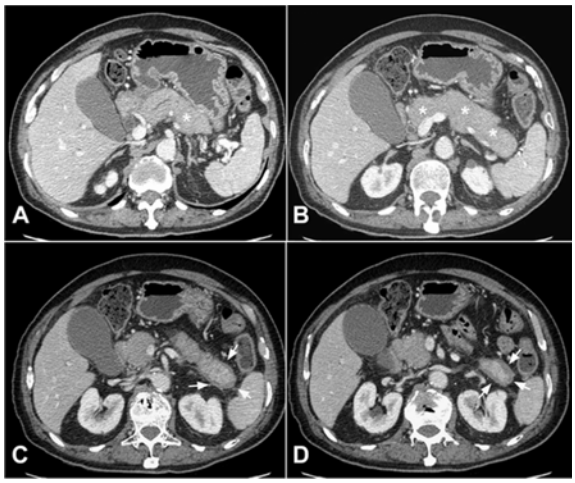

Fig. 1 Serial axial CT images of pancreas (1A-1D from craniocaudal direction) show a diffusely enlarged pancreas with poor enhancement (* in 1A, 1B) and capsule-like rim at pancreatic tail (white arrows in 1C, 1D)

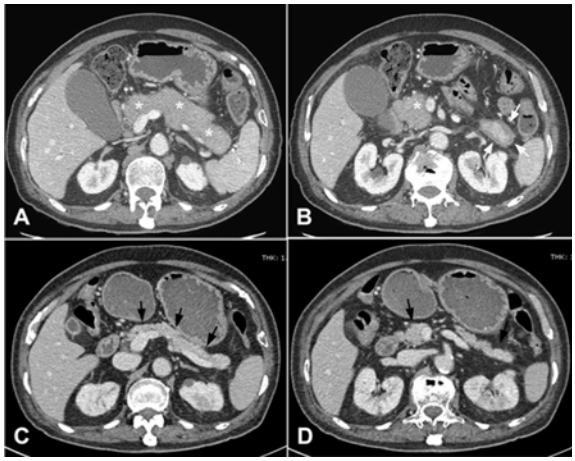

Fig. 2 Marked improvement of autoimmune pancreatitis after the treatment with steroids. Axial CT images before the treatment (2A, 2B) show diffusely enlarged pancreas with poor enhancement (* in 2A, 2B) with capsule-like rim at pancreatic tail (white arrows in 2B). Axial CT images after the treatment (2C, 2D) show markedly decreased pancreatic size with normal enhancement and disappearance of capsule-like rim (black arrows in 2C, 2D)

Discussion

The present case report demonstrated the existence of diffuse-type AIP in a Thai patient. Although AIP has been recognized worldwide for over a decade, in Asia, however, most reports came from Japan and Korean. AIP has never been diagnosed in Thai until recently, when the first report by Chaithreeakit, el al which demonstrated 4 cases of focal-type AIP[9]. Thus, to our knowledge, this is the first case report of diffuse-type AIP in Thailand.

The present case report of diffuse-type AIP met the classic characteristics of AIP, which are elderly male patient[10], presenting with painless obstructive

jaundice[5,10], CT findings of diffusely enlarged pancreas (so called "sausage" pancreas) with typical delayed "capsule-like" rim enhancement[10] (see Figure 1C), elevated serum IgG4 level >140 mg/dL[2] and a dramatic resolution of obstructive jaundice and pancreatic swelling within 2-4 weeks after corticosteroid treatment[11]. Thus, the diagnosis was undoubted according to Mayo HISORt criteria[12], Japan criteria[13], Asian criteria[4] and International Consensus Diagnostic Criteria for AIP[8]. In fact, based on the most recent International Consensus Diagnostic Criteria for AIP 2011[8], the presense of diffuse swollen pancreas, accompanied by elevated IgG4 is enough to diagnose "definite" AIP and a 2-week steroid trial to view the response can be performed[8,11]. Therefore, further more invasive work-up, *i.e*. EUS-FNA or endoscopic retrograde cholangiopancreatography (ERCP), to look for a diffusely narrow pancreatic duct[14] can be omitted[8]. In the present case, however, the attending physician of this case decided to perform EUS-FNA in order to exclude PaC with confidence because diffuse-type AIP has never before been diagnosed in Thailand. In the presented patient, EUS-FNA cytology could rule out PaC but could not diagnose AIP. This is not surprising because it is now accepted that to diagnose AIP, FNA is inferior to tru-cut (core) biopsy[15]. Thus, the role of EUS-FNA in patient suspected of having AIP is to rule out PaC[5], as in this case.

Elevated serum IgG4 is a hallmark in the diagnosis of AIP. An elevated level of more than 140 mg/dL, as initially suggested by Hamano, et al[2], is accepted by most guidelines[4,5,8] and will help diagnose AIP. However, recent study by Mayo Clinic group[16], and as finally adopted by the International Consensus Diagnostic Criteria for AIP[8], suggested that the elevation of more than two folds (280 mg/dL) to be more specific an indicator of AIP and rules out PaC. In any case, the authors' presented case had elevated serum IgG4 that exceeded 280 mg/dL. Serum IgG4 level can be measured simultaneously with other IgG panels as an IgG subclass.

In conclusion, diffuse-type AIP does exist in Thailand. Recognition of the typical findings of imaging study in patient with pancreatic mass is important. Serum IgG4 will aid the diagnosis and careful case selection for a 2-week steroid trial will help diagnose AIP. Thus, unnecessary surgery or making a wrong diagnosis of PaC can be avoided.

Potential conflicts of interest

None.

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ตับอ่อนอักเสบออโตอิมมูนชนิดทั่วตับอ่อน: รายงานผู้ป่วยรายแรกในประเทศไทย

วรายุ ปรัชญกุล, ปิตุลักษณ์ อัศวกุล, ปิยาภรณ์ อภิสารธนรักษ์, สุพจน์ พงศ์ประสบชัย

***ภูมิหลัง**: ตับอ่อนอักเสบออโตอิมมูนเป็นตับอ่อนอักเสบชนิดพิเศษที่เพิ่งเป็นที่รู้จักมาไม่นานนี้ มีลักษณะคล้ายคลึงกับมะเร็งตับอ่อนแต่รักษาหายได้โดยใช้ยาคอร์ติโคสเตียรอยด์ ในประเทศไทยเคยมีรายงานผู้ป่วยตับอ่อนอักเสบออโตอิมมูนชนิดเฉพาะส่วนแล้วหนึ่งรายงาน รายงานนี้เสนอผู้ป่วยตับอ่อนอักเสบออโตอิมมูนชนิดทั่วตับอ่อนเป็นรายแรก*

***รายงานผู้ป่วย**: ผู้ป่วยชายไทยคู่อายุ 76 ปีมาโรงพยาบาลด้วยอาการดีซ่านจากการอุดกั้นของท่อน้ำดีมา 10 วันก่อนมาโรงพยาบาล เอกซเรย์คอมพิวเตอร์พบการอุดกั้นของท่อน้ำดีจากตับอ่อนที่บวมทั่วทั้งตับอ่อนและตับอ่อนมีการติดสีแบบมีแคปซูลรอบๆ ซึ่งเข้าได้กับภาวะตับอ่อนอักเสบออโตอิมมูน ตรวจพบซีรัมอิมมูโนโกลบูลินจี 4 (ไอจีจี 4) สูง 468 มิลลิกรัม/เดซิลิตร ผลตรวจชิ้นเนื้อของตับอ่อนจากการเจาะดูดด้วยเข็ม ผ่านกล้องอัลตราซาวด์ไม่พบมะเร็งตับอ่อน ผู้ป่วยได้รับการรักษาด้วยยาเพร็ดนิโซโลน 40 มิลลิกรัมต่อวันเป็นเวลา 2 สัปดาห์ พบว่าอาการดีซ่านทุเลาเป็นปกติ ตรวจเอกซเรย์คอมพิวเตอร์ซ้ำเมื่อรักษาได้ 2 เดือนพบว่าตับอ่อนที่บวมกลับมาเป็นปกติ*

***สรุป**: ตับอ่อนอักเสบออโตอิมมูนชนิดทั่วตับอ่อนมีอยู่จริงในประเทศไทย แพทย์ควรรู้จักภาวะนี้ไว้เพื่อจะได้ไม่เกิดการวินิจฉัยผิดพลาดเป็นมะเร็งตับอ่อน หรือนำผู้ป่วยไปผ่าตัดโดยไม่จำเป็น*