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Cutaneous Metastases as the Initial Manifestation of Pancreatic Adenocarcinoma: Case Report and Literature Review

Arenas Pineda Natalia Tzuali[1*], Romero Escamilla Diana Verónica[1]

[1]Internal Medicine Resident, Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE), Hospital Regional "Lic. Adolfo López Mateos"

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***Corresponding author:** Arenas Pineda Natalia Tzuali
Internal Medicine Resident, Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE), Hospital Regional "Lic. Adolfo López Mateos"

Abstract **Case Report**

Introduction: Cutaneous metastases from pancreatic adenocarcinoma are rare, particularly when they present as the initial manifestation of the disease. Their appearance is generally associated with advanced disease and poor prognosis. ***Case Presentation:*** We report the case of a 77-year-old male who presented with asthenia, unintentional weight loss, and asymptomatic violaceous macules located on the inguinal and abdominal regions. A skin biopsy revealed poorly differentiated adenocarcinoma metastases. Imaging studies subsequently identified a primary tumor in the pancreas, confirming the diagnosis of metastatic pancreatic adenocarcinoma. ***Conclusion:*** This case highlights the importance of considering internal malignancies in the differential diagnosis of new-onset cutaneous lesions, particularly in elderly patients with systemic symptoms. Early recognition of atypical cutaneous metastases can facilitate prompt diagnosis and management of underlying malignancies, even those as aggressive as pancreatic cancer.

Keywords: Pancreatic adenocarcinoma, Cutaneous metastases, Skin biopsy, Case report, Violaceous macules, Early diagnosis, poorly differentiated carcinoma.

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INTRODUCTION

Pancreatic adenocarcinoma is one of the most aggressive and lethal malignancies, often diagnosed at an advanced stage due to its asymptomatic nature in the early phases. Common sites of metastasis include the liver, lungs, and peritoneum; however, cutaneous metastases are rare and usually indicate disseminated disease. Even more uncommon is the appearance of skin metastases as the initial clinical presentation of pancreatic cancer. These lesions can present with variable morphologies and are frequently misdiagnosed, leading to delayed identification of the primary malignancy. This case underscores the diagnostic value of skin lesions as potential early markers of internal malignancy and highlights the need for a high index of suspicion in atypical dermatologic presentations.

MATERIAL AND METHODS

This article presents a clinical case report of a 77-year-old male patient evaluated at the dermatology department for violaceous cutaneous lesions. A detailed review of the patient's medical history, clinical presentation, physical examination, and diagnostic studies was performed. A skin biopsy was conducted, and histopathological as well as immunohistochemical analyses were carried out to determine the origin of the lesion. Imaging studies, including computed tomography (CT), were obtained to identify the primary tumor and assess the extent of systemic involvement.

Clinical Case

We report the case of a 77-year-old male who presented with non-painful violaceous macules in the inguinal and lower abdominal regions, accompanied by constitutional symptoms such as asthenia, progressive fatigue, decreased appetite and significant unintentional weight loss of 5kg. Histopathological analysis of a skin biopsy revealed poorly differentiated adenocarcinoma, and further imaging studies identified a primary tumor in the pancreas. An upper endoscopy was also performed to obtain a gastric biopsy.

Additionally, he reported the presence of edema in both lower limbs that extended proximally toward the abdomen, where the violaceous skin lesions appeared with an irregular shape and size but with well-defined and confluent borders. These lesions were also located in

the genital, inguinal, and infraumbilical abdominal areas (Figures 1-4).

A skin punch biopsy was performed, followed by abdominal and pelvic contrast-enhanced computed tomography (CT). Laboratory workup revealed moderate normocytic anemia, renal dysfunction (creatinine 3.71 mg/dL), hypoalbuminemia (2.0 g/dL), elevated alkaline phosphatase (432 U/L), and slightly increased tumor markers (CEA 6.37 ng/ml, CA 19-9 47 U/ml). Histopathologic findings from skin, gastric, ileal, and colonic biopsies confirmed infiltration by poorly differentiated adenocarcinoma. Abdominal CT-scan identified a mass in the head of the pancreas (33UH) measuring 40×33×37 mm, with ill-defined borders, that showed marked enhancement following contrast administration (113uh), with persistent density during the venous phase (97 HU) and associated dilation of the extrahepatic bile duct.

Despite the diagnostic findings, the patient chose to be discharged voluntarily and did not undergo oncologic treatment.

DISCUSIÓN

Cutaneous metastases from internal malignancies are uncommon, with an estimated prevalence ranging from 0.7% to 9% of all cancer patients (Alcaraz *et al.,* 2012). Among these, pancreatic adenocarcinoma is an infrequent source, representing only a small fraction of cases. When they do occur, cutaneous metastases typically indicate advanced disease and are associated with poor prognosis (Lazar & Murphy, 2010).

Pancreatic cancer is considered one of the most aggressive types of malignancies. According to epidemiological data from GLOBOCAN, there were 467,409 reported deaths due to pancreatic cancer in 2022, ranking it as the sixth leading cause of cancer-related mortality worldwide in both sexes (International Agency for Research on Cancer, 2022). A retrospective study conducted over eleven years at the Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (Mexico) reported an annual incidence of 4,489 cases of pancreatic cancer, accounting for 4.9% of all cancer-related deaths in 2015 (Sánchez Morales *et al.,* 2021).

Pancreatic cancer spreads through multiple pathways, including direct extension into adjacent structures, lymphatic spread, hematogenous dissemination, and transcoelomic seeding. Direct invasion occurs in approximately 60–70 % of cases and commonly affects the duodenum, stomach, and transverse colon. The lymphatic route primarily involves regional pancreatic and pancreatoduodenal lymph nodes, which are key to disease staging and prognosis (Krathen *et al.,* 2003; Yachida & Iacobuzio-Donahue, 2021). Hematogenous dissemination most often targets the liver, and is also responsible for lung and peritoneal involvement. Peritoneal spread ranks as the second most common extraganglionar site, present in up to 50 % of patients at autopsy and approximately 9 % at initial diagnosis (Ohno *et al.,* 2003; MDPI, 2022).

The most frequent metastatic sites of pancreatic cancer include the liver, lungs, peritoneum, and lymph nodes (Saif, 2009). Cutaneous involvement is exceedingly rare and typically arises late in the disease course. In contrast, our patient presented with violaceous macules in the inguinal and abdominal regions as the initial clinical manifestation, which is exceptionally uncommon and poses a diagnostic challenge (Fernandez-Flores, 2010). This unusual presentation highlights the importance of maintaining a high index of suspicion when encountering atypical skin lesions in patients with systemic symptoms.

The clinical appearance of cutaneous metastases can vary widely, including nodules, papules, plaques, or less commonly, macules (Wolff *et al.,* 2022). In this case, the lesions were non-painful and violaceous, mimicking benign vascular or inflammatory dermatoses. Such presentations highlight the importance of maintaining a broad differential diagnosis, especially in elderly patients with systemic symptoms (Brownstein & Helwig, 1972).

Histopathological evaluation remains the gold standard for diagnosis. In our case, the biopsy revealed a poorly differentiated adenocarcinoma. Immunohistochemistry is crucial in identifying the origin, with markers such as CK7, CK19, and CA 19-9 aiding in confirming pancreatic origin (Ruggeri *et al.,* 2007; Wang *et al.,* 2018).

The umbilical region, known as the Sister Mary Joseph nodule, is the most commonly reported site of cutaneous metastasis from pancreatic cancer (Touraud *et al.,* 1999). However, non-umbilical presentations, such as inguinal and abdominal skin involvement, are exceptionally rare and sparsely documented (Caceres-Dittmar *et al.,* 1994).

Early detection of such lesions, even when asymptomatic, can expedite the diagnostic workup and potentially guide treatment decisions. However, the prognosis remains grim. The median survival after the diagnosis of cutaneous metastases from pancreatic cancer is generally less than six months (Krathen *et al.,* 2003).

Management is primarily palliative and may include systemic chemotherapy, radiotherapy, or supportive care (Hidaka *et al.,* 2009). In our patient, the diagnosis guided a comprehensive staging evaluation, confirming advanced disease with poor differentiation.

This case underscores the need for heightened clinical suspicion when encountering unusual skin lesions, particularly in elderly patients with constitutional symptoms. Furthermore, it highlights the skin as a window to underlying systemic disease.

CONCLUSION

Cutaneous metastases from pancreatic adenocarcinoma are uncommon and often reflect advanced disease with limited treatment options. Their appearance as the initial sign of malignancy, as seen in this case, is exceedingly rare and underscores the importance of thorough clinical evaluation of new or atypical skin lesions, especially in elderly patients with systemic symptoms. Early recognition and biopsy of suspicious cutaneous findings can provide a critical diagnostic clue that leads to the identification of an otherwise occult internal cancer. Awareness of such unusual presentations may contribute to earlier diagnosis and guide appropriate management strategies, even in diseases with inherently poor prognoses like pancreatic cancer.

Figures 1-4. Clinical image of a male patient, shared with informed consent and anonymized to protect identity. The photograph was obtained for diagnostic and academic purposes.

Figure 1

Figure 2

Figure 3

Figure 4

The image reveals multiple coalescing, violaceous-to-hyperpigmented macules and patches with irregular but well-demarcated borders. These lesions are asymmetrically distributed across the lower abdomen,

inguinal folds, genital region, and proximal thighs. The surface appears smooth, without evidence of scaling, ulceration, or exudation. The patient reported no associated pain or pruritus. The lesions resemble reticulated or infiltrative dermatoses, raising suspicion for cutaneous metastatic involvement.

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