Colonic Adenocarcinoma with Pancreatic Metastasis

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Background

The majority of pancreatic tumors are of primary origin. Colonic metastasis to the pancreas is rare and portends a poor prognosis. The diagnosis remains challenging, hinging on histopathological examination of the tissue sample. Optimal treatment remains unknown.

Case Report

A 64-year-old woman with sigmoid colorectal adenocarcinoma (CRC) stage IV (pT4a pN2b pM1c) with hepatic and ovarian metastases was evaluated for progressive obstructive jaundice with worsening, non-radiating left-sided abdominal pain over one week. Associated symptoms included tea colored urine, acholic stools and generalized pruritus. Abdominal exam was without guarding. CEA had increased to 103 from 67.3 three months prior. CT showed intra and extrahepatic ductal dilatation. RUQUS demonstrated a hypoechoic mass in the pancreatic head and a dilated main pancreatic duct not present on MRI one year prior. EUS confirmed the mass measuring 29 mm x 20 mm. FNA was performed with cytology positive for malignant cells. Immunohistochemical stains were positive for CK20, CK19, CDX2, SATB2, and CA19.9, and negative for CK7 and PAX-8. These findings support a diagnosis consistent with metastasis of primary colonic adenocarcinoma origin.

Imaging

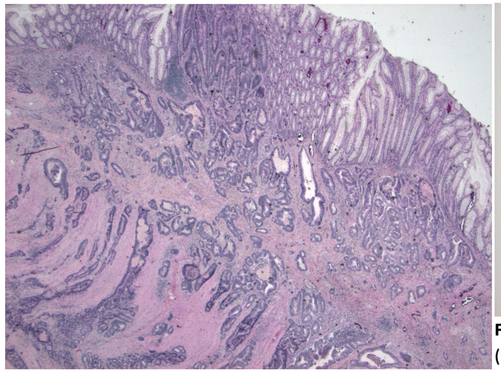

Figure 1. Invasive colonic adenocarcinoma, low grade (H&E, 200x) 2018

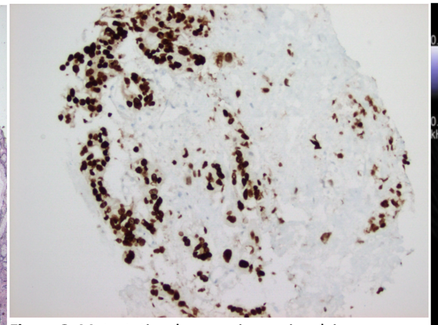

Figure 2. Metastatic adenocarcinoma involving pancreas (H&E, 200x), with confirmatory immunohistochemical stain for CDX2 (200x).

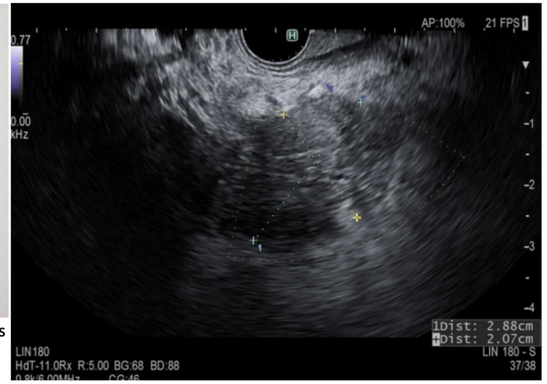

Figure 3. Pancreatic head mass on endoscopic ultrasound

Discussion

Metastatic tumors of the pancreas are rare, comprising only 2% of pancreatic tumors. Of these, renal cell carcinoma, lobular carcinoma, and endometrial carcinoma constitute the majority. CRC pancreatic metastasis is even less common, with preferential metastasis sites to the liver, lung, peritoneum and lymph. Metastasis occurs contiguously, via the lymphatics or by hematogenous spread. Adenocarcinoma predominantly metastasizes to the liver through the lymphatics whereas mucinous or signet ring cell adenocarcinoma commonly metastasize to the peritoneum. Up to 20% of patients are asymptomatic. Survival is often limited, with 90% of lesions unresectable at the time of diagnosis. Those with multiple metastases may be treated with palliative chemotherapy. Here, the histologic pattern confirmed invasive CRC with adjacent pancreatic architecture. Regorafenib was investigated as salvage therapy. While this patient's advanced disease precluded additional surgical treatment, those with solitary solid tumor metastasis to the pancreatic may benefit from surgical resection where 5 year survival rates reach 50% for solitary metastasis.

References

1. Crippa, S., et al., Surgical treatment of metastatic tumors to the pancreas: a single center experience and review of the literature. World J Surg, 2006. 30(8): p. 1536-42.
2. Riihimaki, M., et al., Patterns of metastasis in colon and rectal cancer. Sci Rep, 2016. 6: p. 29765.
3. Viadana, E., I.D. Bross, and J.W. Pickren, The metastatic spread of cancers of the digestive system in man. Oncology, 1978. 35(3): p. 114-26.
4. Hugen, N., et al., Metastatic pattern in colorectal cancer is strongly influenced by histological subtype. Ann Oncol, 2014. 25(3): p. 651-657.
5. Machado, N.O., P.J. Chopra, and A. Al Hamdani, Pancreatic metastasis from colon carcinoma nine years after a hemicolectomy managed by distal pancreatectomy. A review of the literature regarding the role and outcome of pancreatic resection for colorectal metastasis. JOP, 2010. 11(4): p. 377-81.
6. Gunzburg, W.H. and B. Salmons, Novel clinical strategies for the treatment of pancreatic carcinoma. Trends Mol Med, 2001. 7(1): p. 30-7.
7. Cortez, N., et al., Diagnosis and Treatment of Metastatic Disease to the Pancreas. J Laparoendosc Adv Surg Tech A, 2020. 30(9): p. 1008-1012.
8. Zerbi, A. and N. Pecorelli, Pancreatic metastases: An increasing clinical entity. World J Gastrointest Surg, 2010. 2(8): p. 255-9.
9.Islami, F., et al., Annual Report to the Nation on the Status of Cancer, Part 1: National Cancer Statistics. J Natl Cancer Inst, 2021. Potential for Misdiagnosis. Frontiers in Medicine 8, (2021).