

Rare Gingival Metastasis by Pancreatic Carcinoma: A Case Report

Gordana Zamolo*

*Department of Pathology, Rijeka University School of Medicine, Rijeka, Croatia

Abstract

Metastatic tumors to oral cavity are rare and represent approximately 1% off all cases of oral malignant lesions even though metastatic disease may be present. The 53-year-old female presented in March of 2017 complaining with abdominal pain, weight loss and loose stool not more than 3 times per day. CT scan of the abdomen in July showed retroperitoneal mass expanding along the body of the pancreas. Colonoscopy and gastroscopy with biopsy of mucosa of the stomach showed normal result. The tumor marker Ca 19-9 in July 2018 was 110.3 and in August 2018 350.6. The patient was referred in September of 2018 to the maxillofacial surgery Clinic for examination of the lesion in the oral cavity. She presented with a pain, swelling and occasional bleeding around the lower right second molar. Immunohistochemical the tumor cells were positive for Cytokeratin (CK) 19, Cytokeratin (CK) 7, and homebox protein (CDX-2) which is highly sensitive markers of pancreatobiliary cancer. Therefore, the patient was diagnosed with pancreatic carcinoma. This report describes a rare metastasis of malignant pancreatic tumor in lower right gingiva and highlights the importance how immunohistochemical examination helped to identify both the origin and the nature of gingival neoplasm.

Keywords: Pancreatic cancer • Metastasis • Gingiva • Immunohistochemistry

Introduction

Metastatic tumors to oral cavity represent approximately 1% off all cases of oral malignant lesions even though metastatic disease may be present [1] more commonly were affected jawbones than the soft tissues of the oral cavity [2,3]. Prevalence of these tumors in the tongue is reported to be 0.2 % [2]. Patients with pancreatic cancer rarely have symptoms in the early stage, and common symptoms that are present are usually non-specific including shoulder and back pain, dysphagia, dyspepsia, lethargy and changes in bowel habits [4,5]. In accordance with that, patients with pancreatic carcinoma at the initial diagnosis have metastatic disease [5]. Sometimes the intraoral metastasis may be the first sign of and underlying cancer in the body [6]. In this case, biopsy of the metastatic lesion, histology and immunochemistry played an important role in differentiation of the primary tumor. This report describes a rare metastasis of malignant pancreatic tumor in lower right gingiva and highlights the importance of accurate diagnosis and treatment when presenting symptoms and signs are inconclusive.

Case Study

The 53-year-old female presented in March of 2017 complaining with abdominal pain, weight loss and loose stool not more than 3

times per day. Ultrasound of the abdomen in March 2017 showed hyperechoic pancreas with hypodensity of the pancreatic body. Laboratory data showed normal CA-19-9 serum levels at 32.9 (0.0-35.0 U/ml). CT scan of the abdomen showed large calcified retroperitoneal mass medially to the left adrenal gland. In May 2017 was done explorative laparotomy and biopsy of the mass. The large tumor mass infiltrated abdominal aorta, inferior vena cava, truncus celiacus and body of the pancreas. Biopsy confirmed adenocarcinoma, primarily colon. In June, Laboratory data showed increased level of CA-19-9 at 51.8.

Another CT scan of the abdomen in July showed retroperitoneal mass expanding along the body of the pancreas which includes left adrenal gland and truncus celiacus. CT of the thorax showed soft tissue mass in right upper lobe of the lungs. Both masses showed increased uptake of the FDG. Colonoscopy and gastroscopy with biopsy of mucosa of the stomach showed normal result. The revision of the biopsy performed in May after laparotomy was done and confirmed immunohistochemically that the primary lesion is either from the colon or pancreas. The patient started treatment with the total of 10 doses of FOLFOX (FOL – Folinic acid F – Fluorouracil OX – Oxaliplatin) chemotherapy regimen and received last dose in May of 2018. In December 2017 after 6. Cycle of FOLFOX therapy PET/CT scan showed expansive mass retroperitoneally left in mild

*Corresponding author: Gordana Zamolo, Department of Pathology, Rijeka University School of Medicine, Brace Branchetta 20, 51000 Rijeka, Croatia. Email: gordanazamolo@yahoo.com

Received: March 09, 2021; **Accepted:** March 23, 2021; **Published:** March 30, 2021

Copyright: © 2021 Zamolo G. This is an open-access article distributed under the terms of the creative commons attribution license which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

morphological and metabolic regression but with still active malignant disease. Nodal mass in the upper right lobe of the lungs showed also metabolic and morphological regression. Ct scan done in July 2018 compared with July 2017 showed retroperitoneal mass, in diameter slightly smaller but with infiltration of the body and head of the pancreas. The main pancreatic duct showed 3.7 mm dilatation. The tumor marker Ca 19-9 in July 2018 was 110.3 and in August 2018 350.6. The patient in that time complained with abdominal pain, weight loss, loss of appetite and pain in the right part of the oral cavity. In September 2018 endoscopic ultrasound showed mass within body of the pancreas, enlarged lymph nodes within celiac trunk and hepatoduodenal ligament up to 2 cm.

The patient was referred in September of 2018 to the maxillofacial surgery Clinic for further examination of the lesion and incision biopsy. She presented with a pain, swelling and occasional bleeding around the lower right second molar. Physical examination showed 2 x 1.5 nodule, unclear margin with soft texture and partial mucosal ulceration. There was no bony destruction by radiography. Under local infiltration anesthesia the biopsy of the lesion was done. It was reported as poorly differentiated carcinoma. Immunohistochemical the tumor cells were positive for Cytokeratin (CK) 19, Cytokeratin (CK) 7, and homebox protein (CDX-2) which are highly sensitive markers of pancreatobiliary cancer [Figures 1-5]. Therefore, the patient was diagnosed with pancreatic carcinoma, based on CT scan of the abdomen, endoscopic ultrasound, biopsy of the gingival lesion and histopathological examination and immunohistochemistry. After final diagnosis, patient started chemotherapy treatment with Gemcitabine + Abraxane.

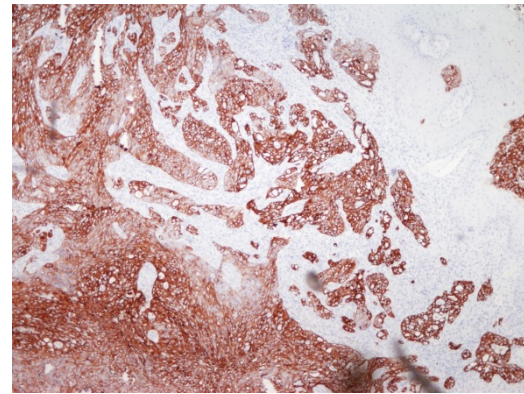


Figure 1-3: Tumor cells were positive for CK19.

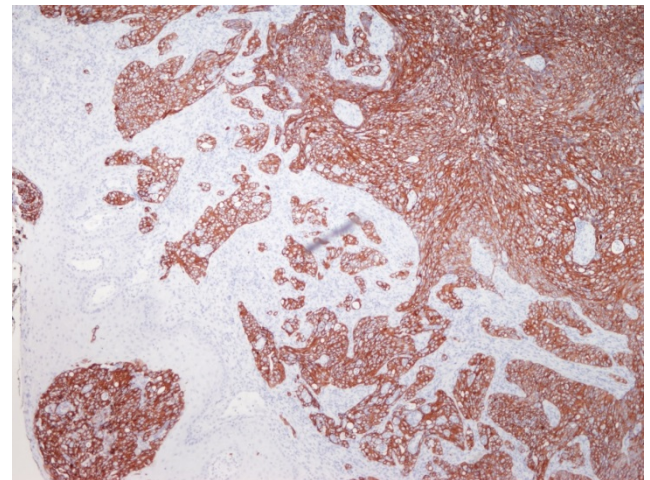


Figure 4: Immunohistochemical expression of tumor cells for CK7.

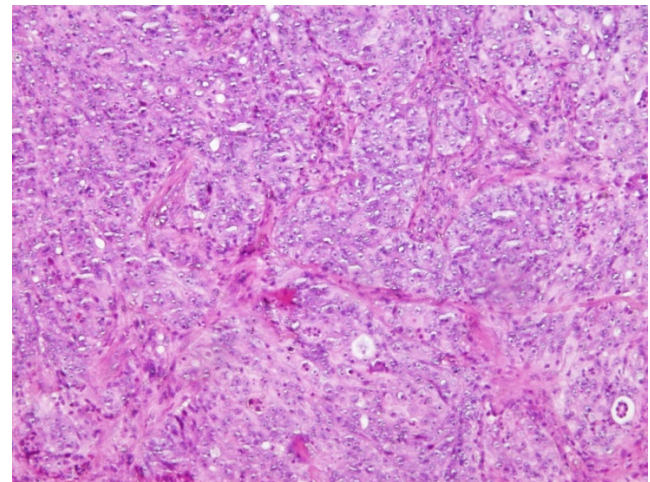


Figure 5: Solid nests of atypical cells, with notable nuclear polymorphism and mitotic activity, separated by connective tissue.

Discussion

This is the first case report of a metastasis of pancreatic adenocarcinoma in gingiva. In this case oral metastasis was not the first indication of pancreatic carcinoma, but histological examination helped to confirm the diagnosis. Metastatic tumors within the oral cavity are very low. Head and neck region is not usually included in the staging scans for abdominal malignancies, and some micro

metastases may go undetected. Therefore, it is still unknown the incidence of metastatic diseases that affects oral cavity. Signs and symptoms which are commonly reported like in our case include pain in the affected area, bleeding, swelling and discomfort [7,8]. Metastatic gingival malignancy presents usually as soft hyperemic nodule with or without pain [9,10].

Pancreatic neoplasm is an aggressive malignancy with 20-30% of cases potentially curable and localized when diagnosed and the 5-year survival rate is approximately only 5 % [11]. Metastases often involve regional lymph nodes instead of distant organs. Hematogenous spreading is usually in liver (64% to 80%), peritoneum (40% to 55%) and lungs (27% to 50%) [12]. Carcinomas that metastasize commonly to the oral cavity include, prostate, breast, kidney, lung, and gastrointestinal malignancies [13,14]. Oral metastasis occurs between the fourth and seventh decades of life usually, where mandible is affected more commonly than the maxilla [13,15]. Pathogenesis of the gingival metastasis is probably associated with oral inflammation that possibly attracts migration and adhesion of the cancer cells to the gingiva [16]. Metastatic disease in the oral cavity from adenocarcinoma of pancreas can cause confusion pathohistologically because of the rarity of such lesions. Therefore, timely biopsy is suggested to exclude a metastatic oral cancer, which can be easily confused with benign reactive lesions or inflammation [9]. Immunohistochemical examination helped to identify both the origin and the nature of gingival neoplasm. Excision of metastasis might help in surviving of the patient, although it is palliative in most cases [17,18]. The diagnosis of a metastasis in the oral cavity poses considerable challenge and the practitioner needs to be careful of the risk of these lesions, while the pathologist has to determine the original tumor based on immunohistochemistry. That helps to determine and increases the chances of successful differential diagnosis. Metastatic lesions should be always included in the differential diagnosis so we can start the treatment sooner.

Conclusion

In this case, sadly, the prognosis remains dismal for metastatic disease. With wide spread metastatic disease typical treatment is palliative radiotherapy and chemotherapy, with pain relief and preventing the secondary infections. Management strategies in cases like this should be approached by a multidisciplinary team. Studies in the future should focus on quality of life in these patients, as for now, they are palliative, with mean survival time of 6 - 12 months.

Conflict of Interest

The authors declare no conflicts of interest regarding the publication of this report.

References

- Hirshberg, A and Buchner A. "Metastatic Tumours to the Oral Region. An Overview." *Eur J Cancer B Oral Oncol* 31 (1995): 355-360.
- Hirshberg, Abraham, Shnaiderman-Shapiro Anna, Kaplan Ilana and Berger Rannan. "Metastatic tumours to the oral cavity - pathogenesis and analysis of 673 cases." *Oral Oncol* 44 (2008): 743-752.
- Lim, S-Y, Kim S-A, Ahn S-G and Kim H-K et al. "Metastatic tumours to the jaws and oral soft tissues: a retrospective analysis of 41 Korean patients." *Int J Oral Maxillofac Surg* 35 (2006): 412-415.
- Matsuda, Shinpei, Yoshimura Hitoshi, Kondo Sadahiko and Sano Kazuo. "Temporomandibular dislocation caused by pancreatic cancer metastasis: A case report." *Oncol Lett* 14 (2017): 6053-6058.
- Keane, M G, Horsfall L, Rait G and Pereira S P. "A case-control study comparing the incidence of early symptoms in pancreatic and biliary tract cancer." *BMJ Open* 4 (2014): e005720.
- Hirshberg, A, Leibovich P and Buchner A. "Metastatic tumors to the jawbones: analysis of 390 cases." *J Oral Pathol Med* 23 (1994): 337-341.
- Kolokythas, Antonia, Miloro M Beth, Olsson Alexis B and Miloro Michael. "Metastatic pancreatic adenocarcinoma to the mandibular condyle: a rare clinical presentation." *J Oral Maxillofac Surg* 72 (2014): 83-88.
- Pires, Fábio Ramôa, Sagarra Regina, Corrêa Maria Elvira Pizzigatti and Pereira Cláudio Maranhão et al. "Oral metastasis of a hepatocellular carcinoma." *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 97 (2004): 359-368.
- Ramirez, José Ramón, Seoane Juan, Montero Juan and Esparza Gómez Germán C et al. "Isolated gingival metastasis from hepatocellular carcinoma mimicking a pyogenic granuloma." *J Clin Periodontol* 30 (2003): 926-929.
- Xue, Li-Jun, Mao Xiao-Bei, Geng Jian and Chen Ya-Nan et al. "Rare Gingival Metastasis by Hepatocellular Carcinoma." *Case Rep Med* 2017 (2017): 3192649. <https://doi.org/10.1155/2017/3192649>
- Vähätalo, K, Ekfors T and Syrjänen S. "Adenocarcinoma of the pancreas metastatic to the mandible." *J Oral Maxillofac Surg* 58(2000): 110-114.
- Scipio, J E, Murti P R, Al-Bayaty H F and Matthews R et al. "Metastasis of breast carcinoma to mandibular gingiva." *Oral Oncol* 37 (2001): 393-396.
- Miles, Brett A, Schwartz-Dabney Carina, Sinn Douglas P and Kessler Harvey P. "Bilateral metastatic breast adenocarcinoma within the temporomandibular joint: a case report." *J Oral Maxillofac Surg* 64 (2006): 712-718.
- Muttagi, S S, Chaturvedi P, D'Cruz A and Kane S et al. "Metastatic tumors to the jaw bones: retrospective analysis from an Indian tertiary referral center." *Indian J Cancer* 48 (2011): 234-239.
- Shintaku, Werner H, Venturin Jaqueline S and Yepes Juan F. "Application of advanced imaging modalities for the diagnosis of metastatic adenocarcinoma of the lungs in the temporomandibular joint." *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 107 (2009): e37-e41.
- Hirshberg, A, Leibovich P and Buchner A. "Metastases to the oral mucosa: analysis of 157 cases." *J Oral Pathol Med* 22 (1993): 385-390.
- Papa, F, Ferrara S, Felicetta L and Lavorgna G et al. "Mandibular metastatic hepatocellular carcinoma: report of a case involving severe and uncontrollable haemorrhage." *Anticancer Res* 21 (2001): 2121-2130.
- Maiorano, E, Piattelli A and Favia G. "Hepatocellular carcinoma metastatic to the oral mucosa: report of a case with multiple gingival localizations." *J Periodontol* 71 (2000): 641-645.

How to cite this article: Zamolo G. "Rare Gingival Metastasis by Pancreatic Carcinoma: A Case Report." *Clin Case Rep* 11 (2021) : 420