

Periampullary Carcinoma with Penile Metastasis

Pui Wei Chieng, MBBS, Nik Azim bin Nik Abdullah, MD

Department of Surgery, Sarawak General Hospital, Kuching, Sarawak, Malaysia

SUMMARY

Periampullary carcinoma metastases are usually located at regional nodes, adjacent organs, liver or lung. On the other hand, metastatic penile cancer is uncommon. Penile metastasis usually originates from pelvic region with prostate and bladder being the most frequent primary location. We present a very rare case of periampullary carcinoma with penile metastasis in a 49-year-old man. He initially presented with early ampullary type periampullary carcinoma and had pyloric preserving pancreatoduodenectomy and adjuvant chemotherapy. However, after six years of uneventful follow up, he presented with a penile lesion which was confirmed to be pancreatic metastasis. He was started on chemotherapy but passed away two months later. Ampullary carcinoma type of periampullary carcinoma usually presents early with favourable prognosis. However, tumour recurrence can present much later after definitive treatment and at a rare site such as penis with generally poor outcome.

KEY WORDS:

Periampullary carcinoma; ampullary carcinoma; penile metastasis; palliative

INTRODUCTION

Periampullary carcinomas are rare tumour accounting to about 5% of all gastrointestinal tract malignancies. Frequent sites for metastases are regional nodes, liver, adjacent organs and lung.¹ On the other hand, metastatic penile cancer is an exceptionally rare condition. Seventy-seven percent of metastasis originates from pelvic region, mainly from the prostate and bladder.² Here, we present an interesting and rare case of periampullary adenocarcinoma who had undergone curative surgery and adjuvant chemotherapy, then presented with penile metastasis nearly six years later.

CASE REPORT

A 49-year-old man, an ex-smoker, presented with painful penile lesion. Six years prior, he had ampullary type periampullary carcinoma and underwent pyloric preserving pancreatoduodenectomy followed by six cycles of gemcitabine chemotherapy. The tumour was moderately differentiated adenocarcinoma measuring 15 mm and confined to the ampulla. Nodal involvement was negative. He was well during follow up with normal Ca19.9 and normal yearly computed tomography (CT) imaging up until six months prior. Then, he noticed a painful lump at the base of penis for about a month. Wedge biopsy confirmed a metastatic moderately differentiated adenocarcinoma. The

latest CT scan showed recurrent periampullary tumour measuring 3.8x3.4 cm with coeliac and superior mesenteric artery region nodes, segment six liver metastasis, peritoneal nodules and ascites. There were no other systemic spreads, paraaortic or pelvic node involvement. He was started on chemotherapy capecitabine but unfortunately, he passed away two months later.

DISCUSSION

Periampullary carcinoma is divided into four groups of tumour entities, namely pancreatic carcinoma, ampullary carcinoma, distal cholangiocellular carcinoma and duodenal carcinoma.¹ Ampullary carcinoma has a more favourable prognosis as it presents early with jaundice. Hence, it is resectable in 80-90% of cases as in this patient. Overall five-year survival rate of ampullary carcinoma ranges from 34.0-67.7% in resected cases.³ Ampullary carcinoma usually metastasizes to regional nodes, liver, adrenal glands, kidney and lung. It is also rarely found to metastasize to bone (5%) and brain (4%).³ To the best of our knowledge, this is the fifth case of pancreatic carcinoma with penile metastasis reported.⁴

The penis has rich arterial supply and good venous communications to adjacent organs. Despite that and being an end organ, penile metastasis is extremely rare. The common primary sites are prostate, bladder, rectosigmoid, rectum and kidney.² Uncommon primary sites for penile metastasis reported include upper gastrointestinal tract, ureter and bone.² The possible mechanisms of tumour spread



Fig. 1: CT scan showing the recurrent pancreatic tumour. There were also enlarged coeliac axis nodes and ascites in this film.

This article was accepted: 26 September 2016

Corresponding Author: Pui Wei Chieng, Department of Surgery, Sarawak General Hospital, Jalan Hospital, 93586 Kuching, Sarawak, Malaysia

Email: puiwc82@hotmail.com

include retrograde venous route, retrograde lymphatic route, arterial spread, direct continuity, implantation and secondary to instrumentation.² In this particular case, there were no pelvic organs or nodes involvement which makes retrograde venous spread unlikely. Direct continuity, implantation and instrumentation are highly unlikely as well. The likely pathway of spread to the penis cannot be postulated based on demonstrable sites of spread in this patient. The possible pathway is via lymphatic spread from parietal peritoneal metastasis. However, secondary penile metastasis is usually associated with disseminated disease where all the mechanisms of spread could play a role and different primary tumours tend to metastasize in different patterns.

Penile metastasis usually presents with penile mass as in this patient. Chan et al. reported the initial presentations of penile metastasis as penile mass, induration and nodules in 51%, priapism in 27%, urinary symptoms like haemorrhage, haematuria, incontinence, and irritative and obstructive symptoms in 27%, pain in 17%, urinary retention in 13% and skin lesions in 11% of patients.⁵ Generally, patients with penile metastasis have very poor outcome.² Most of them have widespread metastatic disease, poor general health and do not live more than six months. Irrespective of the type of primary tumour, the advisable option is palliative treatment.² In this patient, he was well without any recurrence five years after diagnosis and treatment. His tumour recurred and grew rapidly after that.

CONCLUSION

Ampullary carcinoma type of periampullary carcinoma is a rare tumour and presentation with penile metastasis is even rarer. Ampullary carcinoma usually presents early and has a favourable prognosis after resection. However, the tumour recurrence can present much later with very rare clinical manifestation of penile metastasis as in this patient. The overall outcome of penile metastasis is very poor and palliative therapy is the preferred treatment.

REFERENCES

1. Berberat PO, Künzli BM, Gulbinas A, Ramanauskas T, Kleef J, Muller MW, et al. An audit of outcomes of a series of periampullary carcinomas. *Eur J Surg Oncol* 2009; 35(2): 187-91.
2. Cherian J, Rajan S, Thwaini A, Elmasry Y, Shah T, Puri R. Secondary penile tumors revisited. *Int Semin Surg Oncol* 2006; 3(1): 33.
3. Voutsadakis IA, Doulmas S, Tsapakidis K, Papagianni M, Papandreou CN. Bone and brain metastases from ampullary adenocarcinoma. *World J Gastroenterol* 2009; 15(21): 2665-68.
4. Park JS, Jang TH, Jeong JY, Jang SH, Shin MK. Metastatic penile cancer originated from pancreas. *Korean J Urol* 2005; 46(10): 1113-15.
5. Chan PT, Begin LR, Arnold D, Jacobson SA, Corcos J, Brock GB. Priapism secondary to penile metastasis: a report of two cases and review of the literature. *J Surg Oncol* 1998; 68(1): 51-9.