CASE REPORT

Penile metastases treated with partial glansectomy and adjuvant radiotherapy 5 years after an initial diagnosis of rectal cancer

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SUMMARY

A 61-year-old man with recurrent rectal carcinoma was referred to the urology clinic with two penile lesions. These had negatively affected his quality of life and he underwent a radical circumcision and proximal glansectomy with reconstruction. This case report examines the clinical presentation and surgical treatment of rectal carcinoma metastasising to the penis.

BACKGROUND

Any metastasis to the penis is uncommon with 300 cases reported in the literature.^{1 2} Bladder and prostate are the most common primary sites.

Those cases from a rectal primary form a small subgroup with only 26 cases reported since it was first described in 1950^{1 3-6} and only four cases occurring in the UK.⁷⁻⁹ The most frequent presentations are of a solitary or multiple penile lesions occurring as part of disseminated disease.^{6 10} Treatment, therefore, tends to be palliative although curative surgical resection has been reported in solitary metastasis.¹ The mean time from diagnosis of primary neoplasm to penile metastasis is 18 months⁶ and this condition can have devastating psychosocial effects on the patient. We examine a case of a delayed presentation of rectal penile metastases which was treated surgically in an effort to improve the patient's quality of life.

CASE PRESENTATION

A 61-year-old man was referred to the urology department in 2013 after discovering two lumps on his glans penis. He was initially diagnosed in August 2008 with a T3N1 rectal adenocarcinoma and primarily treated with neoadjuvant chemoradiotherapy. He subsequently underwent an abdominoperineal resection in December 2008 followed by adjuvant chemotherapy (capecitabine). Final pathological analysis confirmed a T3N0 adenocarcinoma with positive margins. On a surveillance CT 2 years later he was found to have widespread disease with pulmonary and pelvic deposits involving bladder and retroperitoneum.

Between March 2011 and July 2012 he received two further courses of chemotherapy (capecitabine and oxaliplatin) and 3 months later noticed a small lesion on the glans penis. This progressed despite a further course of chemotherapy (irinotecan) which was referred to urology as the lesion was causing locoregional irritation, discharge and was unsightly. He described passing debris in his urine and

occasionally felt his stream was obstructed but never developed urinary retention. There was no history of priapism. On examination he had a 2 cm exophytic lesion arising from his left prepuce with two smaller lesions near the corona on the right side with an intact meatus (figure 1). Palpation of his penile shaft revealed extensive induration of both corporal bodies secondary to tumour involvement. The distal lesions had considerable effect on his quality of the life due to the cosmetic appearance and ongoing discharge.

INVESTIGATIONS

An ultrasound was considered but a recent CT revealed extensive bladder involvement. As the patient wished for an improvement in the cosmetic appearance and a reduction in regional symptoms he was offered a resection biopsy to achieve both.

DIFFERENTIAL DIAGNOSIS

More common causes of penile lesions such as condyloma and primary penile squamous cell carcinoma were considered but given the history of disseminated disease and recent radiological progression the clinical picture was of penile metastases.

TREATMENT

As the symptoms of metastatic disease were causing regional symptoms and cosmetic concerns despite chemotherapy further medical treatment was not

Figure 1 Exophytic lesions seen on lateral aspects of glans.

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considered. He was referred to a joint oncology–urology penile cancer clinic where the options of radiotherapy alone, or surgery with adjuvant radiotherapy were discussed. Given the tumour's extent within both corpora it was explained that surgery would only treat the distal lesions and not the proximal shaft deposits. He was also advised that there was a chance of urethral obstruction that would necessitate a long-term catheter. In spite of his guarded prognosis the patient felt that if local control of the distal lesions might be obtained temporarily it would improve his quality of life and he elected for local surgical resection with adjuvant radiotherapy.

He underwent surgical excision of lesions via a radical circumcision and modified glansectomy, specifically using a wide excision of the glans on either side of the each lesion. The remaining glans was then reapproximated with absorbable sutures thereby achieving a cosmetically acceptable glans (figure 2). This was performed as a day case procedure with rapid recovery and he was discharged home the same day.

OUTCOME AND FOLLOW-UP

Histology confirmed metastatic rectal adenocarcinoma deposits in the glans penis. Follow-up at 1 month revealed a cosmetically acceptable glans and complete resolution of his local symptoms. He was discussed at the regional penile specialist multidisciplinary meeting and offered palliative local radiotherapy to prevent further exophytic recurrence which he received as 30 Gy in 10 fractions. At 3 months he was reviewed in-clinic; his surgical wounds had healed completely and there was no evidence of recurrence. Four months postoperatively he developed brain metastases and died soon afterwards.

DISCUSSION

The penis is an uncommon site for metastasis with only 26 cases of metastatic rectal deposits reported in the literature.^{1 3–6} The commonest primary sites are the bladder and the prostate (65%) with colorectal metastases being the third most frequent.^{1 2} The pathogenesis of penile metastasis is poorly understood with several mechanisms postulated.^{10–12} Retrograde venous spread is thought to be the commonest route of metastasis due to communication between the venous plexuses of the pelvic viscera and those of the dorsal penile venous system. Retrograde lymphatic spread has also been described as the penis and the lower rectum drain to the iliac nodes. Arterial

spread via emboli, direct invasion of the penile base and implantation secondary to instrumentation have all been suggested as potential mechanisms for metastasis.^{10–12} At presentation 90% will have widespread metastatic disease and have limited performance status.¹⁰ Prognosis is poor with the median survival being 5–22 months.⁵

Around half of the cases reported in the literature have been since 2000.^{1 4} One could speculate that improvements in rectal cancer treatments prolong survival to allow this unusual metastatic site to manifest more frequently. Our case would support such a theory given that chemotherapy regimens were administered on four different occasions throughout this patient's disease course.

The mean interval from diagnosis of primary disease to penile metastasis is 19 months.⁶ The majority of cases described in the literature presented 6–24 months after the diagnosis of a primary neoplasm.^{1 5 9 13–18} Here, we describe a case with a longer latent period than previously described presenting almost 5 years after his initial diagnosis of primary rectal cancer. However, there have been cases reported at 9 and even 26 years after the primary tumour was diagnosed.^{4 7} Similar to this, case most patients present with either a mass or induration of the penis affecting the shaft with the glans involved in only 10% of cases.^{5 10 19} Other clinical presentations include malignant priapism, pain, urinary retention and haematuria.^{5 12 20} As most patients present with disseminated disease, surgical treatment is not offered with curative intent. A penectomy has been advocated as a palliative treatment by some²¹ but is associated with negative psychosocial morbidity which is unacceptable to most patients.²² Surgery should be considered on an individual basis, taking into account the location of the metastasis the patient's general condition and the possibility of a reasonable functional and cosmetically acceptable result.

When dealing with rare and unusual sequelae of metastatic disease little guidance or evidence exists to aid management. In our case we were uncertain whether local surgical resection would provide adequate results. Follow-up has indicated good results, both subjectively and objectively, with surgery and radiotherapy.

Learning points

- ▶ The penis is a rare but recognised site for metastasis from a rectal adenocarcinoma.
- ▶ As survival with metastatic disease improves penile metastasis may be encountered more frequently.
- ▶ A penile mass or induration is the commonest presentation usually occurring 18 months following diagnosis of a primary neoplasm.
- ▶ Penile metastases indicate advanced disease with a poor prognosis.
- ▶ Treatment is palliative but, as this case illustrates, local surgical excision can be offered to treat physical or psychological symptoms and improve quality of life.

Figure 2 Postoperative appearance.

Contributors LAMG conceived, designed and drafted the case report. MSF and ML were involved in the critical revision of draft versions. NJP involved in the further critical revision and approval of the final version.

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