

Pilonidal Sinus, Squamous Cell Carcinoma, Negative Pressure dressing will be Appropriate

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Abstract

Chronic pilonidal sinus disease is an acquired benign affliction for many across the globe, but in a rare few undergoes malignant transformation. We report an unusual case of a large squamous cell carcinoma arising from a chronic pilonidal sinus, its successful surgical excision, and detailed documentation of wound healing with the assistance of negative pressure wound therapy. For large sacrococcygeal wounds we evidence that secondary intention healing with NPWT is a valid initial alternative to reconstructive surgery with a good cosmetic outcome and the option for early ambulation.

Keywords: Pilonidal; Squamous; Negative; Pressure; Malignancy; Rare

List of abbreviations: NPWT: Negative Pressure Wound Therapy; MDT: Multidisciplinary Team; MRI: Magnetic Resonance Imaging; CT: Computed Tomography; USS: Ultrasound Scan; SCC: Squamous Cell Carcinoma

Introduction

We present a rare case of a 68 year old male presenting to a general surgery clinic with a 12 month history of a large fungating exophytic soft tissue mass arising from a chronic pilonidal sinus in the natal cleft. Biopsy confirmed moderately differentiated squamous cell carcinoma and imaging excluded local invasion or metastases. The case was surgically managed with wide local excision and wound closure with the assistance of a RENASYS™ GO, Smith and Nephew, Hull UK, NPWT in the community, avoiding the need for reconstructive surgery.

Pilonidal sinus disease is an acquired benign condition thought to be due to the trapping of hair, subsequent penetration of skin, and formation of pits with chronic inflammation secondary to foreign body reaction [1]. In the acute setting pilonidal disease presents as a painful pilonidal abscess. It is a common general surgical condition affecting approximately 26 per 100,000 people and twice as common in men than women [2]. It primarily affects the sacrococcygeal fold presenting challenges to surgical management and wound healing due to tension, tissue vascularisation, hygiene, and practicalities of wound management in this region.

Malignant transformation is rare in pilonidal disease with an estimated incidence of 0.1% [3] and less than 100 cases reported in the literature [4]. It is principally associated with squamous cell carcinoma although basal cell and verrucous carcinoma have also been reported [5].

Materials and Methods

A fit and well 68 year old male presented to a general surgery clinic with a 12 month history of a “discharging lump” that failed to respond to prolonged courses of antibiotics, arising from the site of a previously known chronic pilonidal sinus that had been present for 7 years.

Examination revealed a non-tender 30x40mm fungating exophytic central lesion in the natal cleft arising from a previous sinus with complete disruption of the sinus. The surrounding skin was normal in character and temperature. Abdominal and rectal examination were unremarkable. An incisional biopsy of the lesion confirmed a well-differentiated keratinising squamous cell carcinoma with no evidence of vascular or perineural infiltration.

Investigations and operative management were discussed with the Dermatology and Plastic Surgery teams. A MRI Pelvis confirmed a localised 60x50mm soft tissue mass in the gluteal cleft with no bony involvement or locoregional lymphadenopathy. USS groins confirmed no significant lymphadenopathy, a staging CT chest / abdomen / pelvis was negative for metastatic spread and a flexible sigmoidoscopy showed simple diverticulosis only. The MRI and CT images were used to plan excision margins (Figure 1).

Definitive surgical management involved wide local excision with the patient prone (Figures 1 and 2), using a ruler to map out margins of 10mm from the tumour. The resulting defect measured 100 x 170mm, taken to the depth of the sacrococcygeal fascia (Figure 3). NPWT was applied in theatre under sterile conditions using black sponge and Mepitel[®] One interface (Figure 4). The NPWT was subsequently changed in the community once a week by tissue viability nurses. Photos were taken at 2, 10, 14 and 26 weeks, with a tube scale, to monitor progress (Figures 5, 6, 7 and 8 respectfully).



Figure 1: Pre-Operative marking using MRI to map resection margins

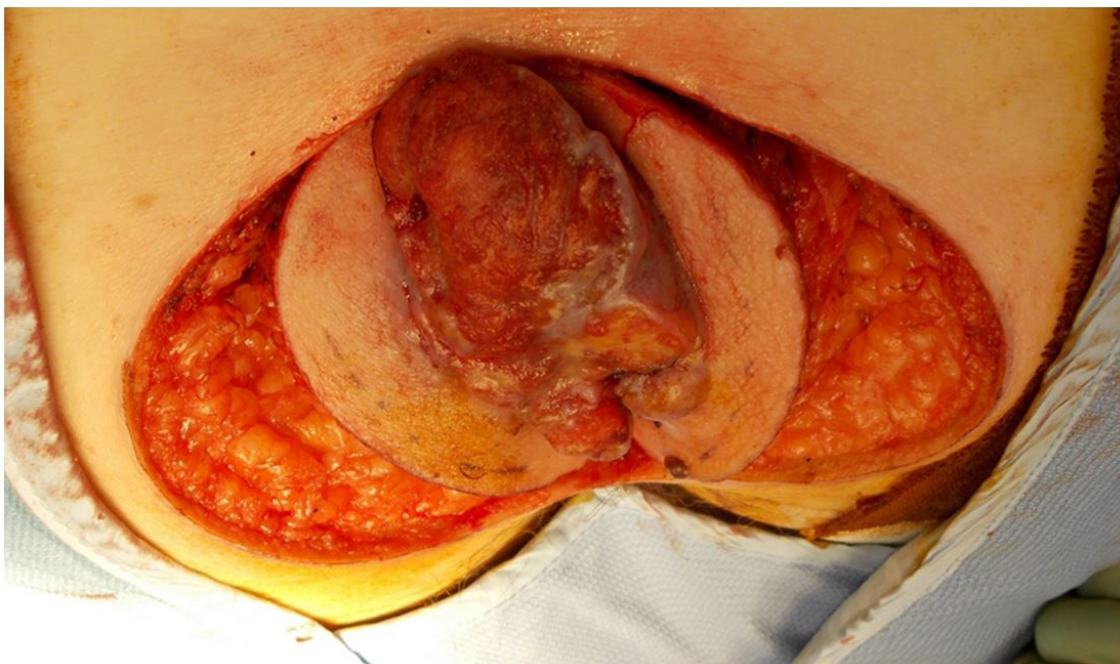


Figure 2: Peri-operative

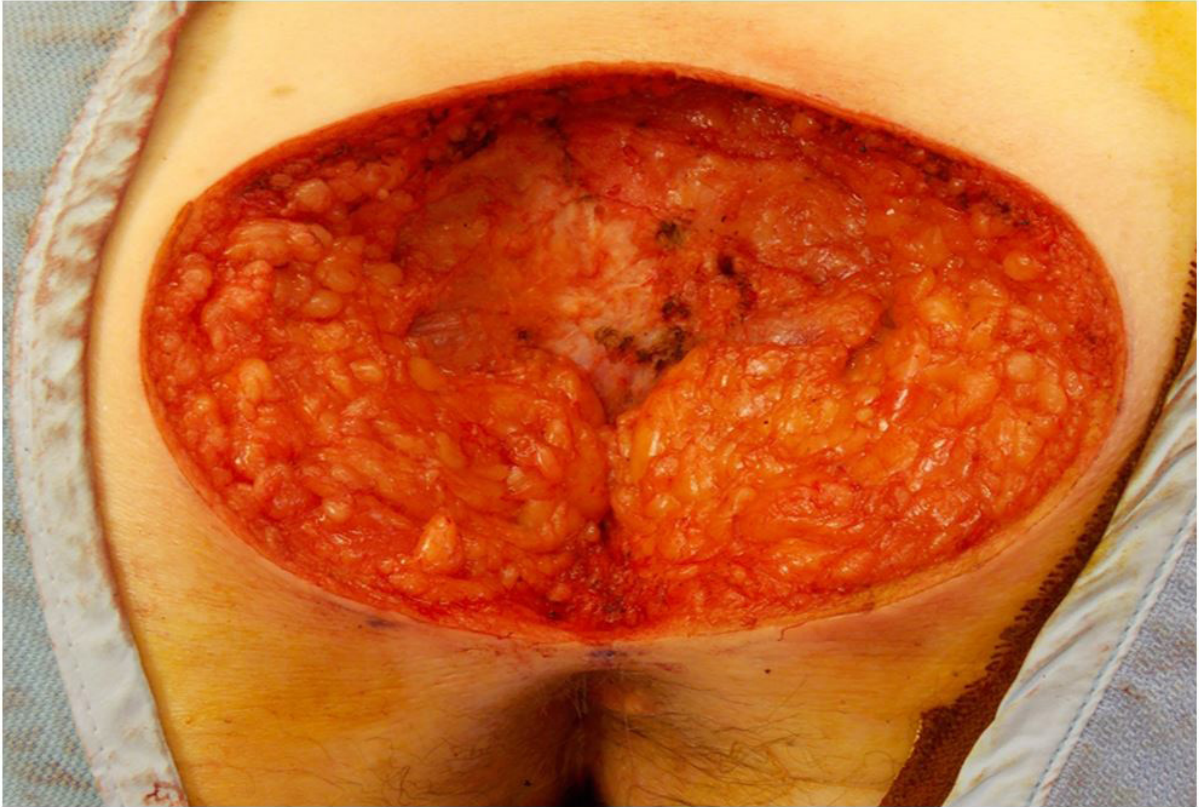


Figure 3: Post-Operative 100 x 170mm defect



Figure 4: Post-operative NPWT

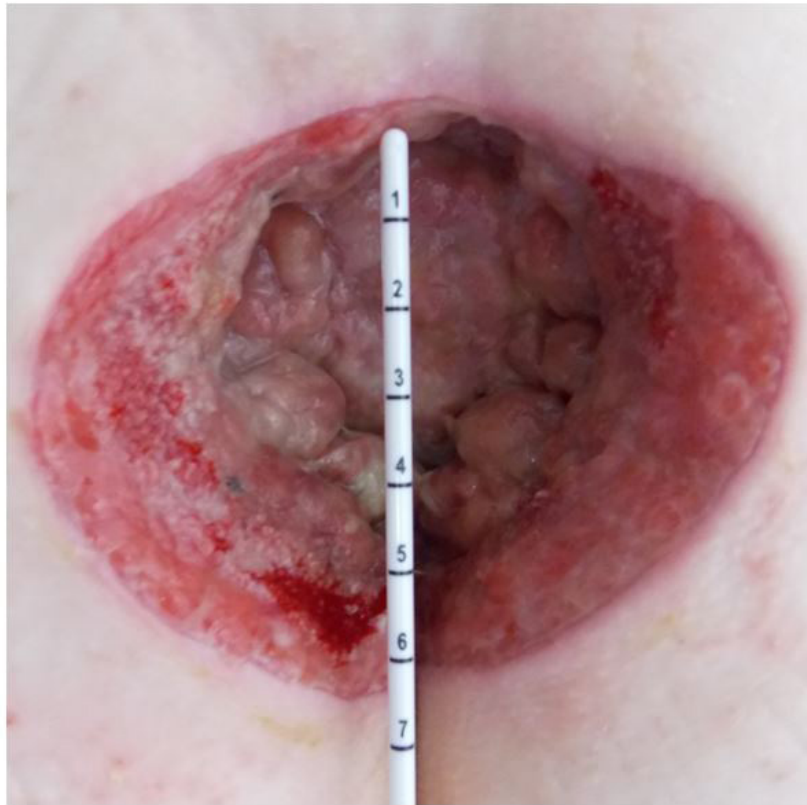


Figure 5: Post operative 2 weeks, measurement (cm)



Figure 6: Post – Operative 10 weeks



Figure 7: Post-operative 14 weeks



Figure 8: Final healed wound 26 weeks

Results

Histology revealed a 75x38mm completely excised pT3 moderately differentiated keratinising squamous cell carcinoma with no evidence of vascular or perineural infiltration. There was greater than 5mm clearance on all margins.

After 2 weeks of NPWT the wound had substantially reduced in size to a third of the original defect (Figure 5). At 10 weeks the wound cavity further reduced to 15mm and had otherwise epithelialized (Figure 6). From 10 weeks the wound was dressed with simple absorbent dressings. At 3 months silver nitrate cauterisation was required for a discrete area of over granulation (Figure 7) with no other complication noted. By 6 months the wound had completely epithelialized (Figure 8) and the patient was discharged from the wound clinic. At 12 months no evidence of recurrence locally or distally was noted and the wound remained intact.

Discussions

A proportion of acute pilonidal abscesses become recurrent pilonidal disease with a sinus opening into the natal cleft associated with intermittent discharge and abscess formation [6].

Recurrent pilonidal disease is a chronic inflammatory process thus susceptible to malignant transformation. Therefore when faced with recurrent pilonidal disease in the presence of friable, fungating or non-healing wounds there should be a high index of suspicion for malignancy even in the absence of any other risk factors such as a UV exposure and immunosuppression, such as with this case.

Some argue that all pilonidal specimens should be sent for histology to rule out malignancy [7], however given the ongoing rarity of malignancy there is still much debate around this practice [8].

A good prognosis can be achieved with a large SCC (>6mm) if it is within the subcutaneous tissue and void of invasion histologically. In the literature the gold standard treatment for superficial disease is wide local excision with addition of adjuvant radiotherapy only in selected cases [9].

Wound healing in the gluteal cleft can be variable with most surgeons opting for an off centre primary closure and reconstructive surgery for larger wounds. Secondary intention healing, although definitive, is thought to be a painstaking and unfavourable process for the patient¹.

Conclusions

Though rare, vigilance is required to assess for malignancy in chronic pilonidal sinus disease. When excising chronic pilonidal disease consider sending for histology. Early diagnosis and excision is essential to a good prognosis. In this case the only high risk feature was the size. The anatomy and resection margins must be carefully considered in operative planning due to close proximity to the anus and sacrococcyx. A defunctioning colostomy may be considered in some cases. Use of NPWT on a large complicated wound, in a notoriously difficult area to heal enables early ambulation and rapid definitive wound healing with minimal complications and a good cosmetic outcome; all which can be achieved in the community and without the later need for reconstructive surgery. Secondary intention healing and NPWT should therefore be highly considered as the initial treatment for any large wound defect in the sacrococcygeal area. Early MDT discussion with Dermatology, Plastic Surgery and Tissue Viability nurses is essential in providing the best possible care for these patients.

Acknowledgments

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