Reminder of important clinical lesson

Giant verrucous carcinoma of the lower extremity in women with dementia

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Summary

We present the case of an 81-year-old woman with dementia and a giant exophytic ulcerated tumour, which covered most of the lower leg and the dorsum of the foot and emitted a foul smell. The patient had chronic venous insufficiency for 30 years, and previously (appr. 20 years ago) had a squamous cell carcinoma in the same location (right lower leg) that could be treated surgically. The dermatopathological examination of a large excisional biopsy revealed a highly differentiated verrucous carcinoma (formerly referred to as papillomatosis cutis carcinoides). Pathologically modified lymph nodes (suspicious of lymphatic metastases) were observed. Possible treatment options (surgery, intralesional and systemic treatment) were discussed. Finally, due to extension, location of the tumour and the age and co-morbidities of the patient, a decision was made to perform radiation therapy.

BACKGROUND

We report this case because giant verrucous carcinomas of the leg with local or distant metastases are rare in dermatological practice. Unfortunately, still in present times of excellent developed medicine, the patient presented here has been in long-term medical care of her family doctor, and biopsy of the tumour has not been performed prior to presentation in our department. Psychiatric comorbidity (dementia) often leads to a delay in establishing the correct diagnosis and beginning of therapy. In particular, we want to discuss alternatives to surgical treatment, as this is not necessarily the first choice in the presented case.

CASE PRESENTATION

In March 2012, an 81-year-old woman in debilitated health and with dementia presented to our outpatient service. The physical examination showed a fungating ulceration, approximately 15×10 cm² in size, located on the distal ventral aspect of the right lower leg and reaching the medial back of the foot (figure 1). The ulceration showed a verrucous papillomatous peripheral ridge, yellow-brown in colour and emitting a faecal miasma.

The patient has had chronic venous insufficiency and related ulcerations on the lower legs for >30 years. Approximately 10 years ago, a squamous cell carcinoma in the affected area had been treated with surgery and a mesh graft.

INVESTIGATIONS

The histology of an excisional biopsy of the lower leg showed a highly differentiated verrucous carcinoma (formerly referred to as papillomatosis cutis carcinoides) (figure 2). Ultrasonography revealed enlarged lymph nodes in the right groin. This finding was confirmed by MRI of the pelvic region, which also showed suspect enlargement of para-iliac and inguinal lymph nodes bilaterally.

An MRI of the affected limb revealed that the tumour invaded deeply, extending from the medial posterior

aspect of the foot to the middle of the lower leg, and affecting the cutis, subcutis and fascia, which erupted at the level of the upper ankle joint.

DIFFERENTIAL DIAGNOSIS

Extensive epithelial excrescences of the lower leg in the background of chronic venous insufficiency may be mistaken for other lesions with marked papillomatosis cutis as follows:

- ▶ Infectious diseases (eg, tinea granulomatosa follicularis and nodularis cruris/verrucous trichophytia and chromomycosis).
- ▶ Stewart-Treves syndrome, lymphangiosarcoma in long-term lymphatic stasis of the upper or lower extremities.
- ▶ Halogenoderma (eg, bromoderma), resulting after exposure to halogen-containing drugs or substances.

TREATMENT

The case was presented to an interdisciplinary tumour conference in our university clinic. In agreement with the

Figure 1 Clinical features after first dermatological consultation.

Figure 2 H&E stain displaying a highly differentiated epithelial tumour.

other disciplines, it was decided that radiation therapy of the tumour and the affected lymph nodes would be the first choice because an extremity-preserving surgical procedure was not considered feasible.

DISCUSSION

In conclusion, we report the case of an elderly female patient with dementia and a large verrucous carcinoma of the foot and the lower leg with pathologically modified lymph nodes, being highly suspicious of lymphatic metastases. In this case, the verrucous carcinoma was probably based on chronic venous insufficiency, which persisted for 30 years. Ultimately, due to dementia and denial of the tumour by the delay in diagnosis, the preceding therapy appeared to be insufficient.

Verrucous carcinoma is an uncommon, low-grade, slow-growing subtype of squamous cell carcinoma of the skin and mucosa.^{1 2} Verrucous carcinomas are highly differentiated epithelial tumours, primarily described by Ackerman in 1948 as a verrucous carcinoma of the oral cavity.³ The terminology varies and different anatomic locations are involved, but represent the same pathological entity.⁴ Most often verrucous carcinomas are localised in the oropharyngeal ‘florid oral papillomatosis’, ano-urogenital ‘condylomata gigantea/Buschke Löwenstein tumour’ and plantar regions ‘carcinoma cuniculatum’.² The lower limbs and the dorsum of the foot belong to less frequently affected areas; occurrences in this region are mostly associated with chronic venous ulcerations.^{2 4} It is also worth mentioning that infections with certain human papillomavirus types are also considered as a cause of verrucous carcinoma.^{1 2 5}

Verrucous carcinoma is a low-grade carcinoma of the epithelium. Due to rather slow growth—exceptions do exist with rapid development—diagnosis of verrucous carcinoma is often delayed, and undertreatment may be a consequence.⁶ Verrucous carcinoma appears as a cauliflower-like tumour, which expands into a bulky tumour. From the ulcerations, foul-smelling, purulent, keratinous debris is expressed. The tumour may evolve, deeply affecting the cutis subcutis, and finally penetrating the underlying tissue and bones. Although verrucous carcinomas are considered to be locally invasive tumours

with low metastatic potential, there are reported cases of metastasising verrucous carcinomas.²

A final diagnosis of verrucous carcinoma is made by pathohistological examination of biopsies obtained from the defect. Of special interest is the histopathological differentiation of these highly differentiated carcinomas from pseudocarcinomatous hyperplasia, which can be highly challenging even for experienced dermatopathologists, especially when faced with little clinical information and suboptimal biopsies.

In most cases of verrucous carcinoma, surgical treatment is considered the therapy of choice. Other options include topical chemotherapy (regimen mostly based on cisplatin, 5-fluorouracil and imiquimod), radiation, electrocautery, cryotherapy and photodynamic therapy.⁶ Systemic chemotherapeutic regimen mostly gear to that known from head and neck cancer with palliative purpose (cisplatin as single or combination therapy with doxorubicin and, methotrexate or bleomycin).⁷ Additionally, reports exist on the use of interferon α and synthetic retinoids. Of importance, cure usually cannot be expected. At the time when the patient presented to our clinic, the tumour was locally advanced such that extremity-preserving surgical therapy was not considered feasible and radiotherapy was recommended.

Radiation therapy for verrucous carcinoma is controversial. On the one hand, there are reported cases of anaplastic transformation with corresponding dedifferentiation and increased rates of metastasis; on the other hand, there exist recent reports that do not support these findings.⁸

More timely diagnosis of squamous cell carcinoma probably would have facilitated the possibility of curative surgical treatment with preservation of the extremity, as surgical treatment would have been much easier in the setting of smaller tumour masses.

Significant psychiatric and psychosocial comorbidity is present in at least 30% of dermatological patients.⁹ In our case, it is possible that dementia delayed the diagnosis, as the patient did not observe anything unusual.

Learning points

- ▶ Large verrucous carcinomas of the lower extremity and foot are relatively rare in dermatological practice.
- ▶ Most often, verrucous carcinomas are associated with chronic venous ulcers.
- ▶ It is therefore important to be aware of verrucous carcinomas, obtain biopsies and establish the diagnosis as early as possible.
- ▶ Psychiatric comorbidity led to a delay in the correct diagnosis and beginning of therapy.

Competing interests None.

Patient consent Obtained.

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