

## Authors' contributions

Irene López Riquelme: Critical review of the literature; writing of the manuscript; final approval of the final version of the manuscript.

Alberto Andamoyo Castañeda: Critical review of the literature; writing of the manuscript; final approval of the final version of the manuscript.

Elisabeth Gómez Moyano: Intellectual participation in the propaedeutic conduct of the case; final approval of the final version of the manuscript.

Ángel Vera Casaño: Intellectual participation in the propaedeutic conduct of the case; final approval of the final version of the manuscript.


## Conflicts of interest

None declared.

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## Giant, aggressive Merkel cell carcinoma of the right arm<sup>☆</sup>



Dear Editor,

In October 2018, a 65-year-old woman consults for a red, hot, painful, edematous lesion on the skin of the right arm.

Within two months of the tumor appearance, its volume increased fourfold (Fig. 1).

The physical examination revealed an erythematous tumor 1.5 cm in diameter, movable in relation to the substrate, and poorly demarcated from the surroundings. History of comorbidities: chronic lymphocytic leukemia B-cell BCLL-PD (treated with Ofatumumab + Chlorambucil, 2008–2009).

The laboratory abnormalities showed a markedly elevated level of leukocytes: 89,600 (N: 4–10).

A 2.0 × 0.7 cm skin section with a subcutaneous tissue thickness of 0.6 cm was taken for evaluation.

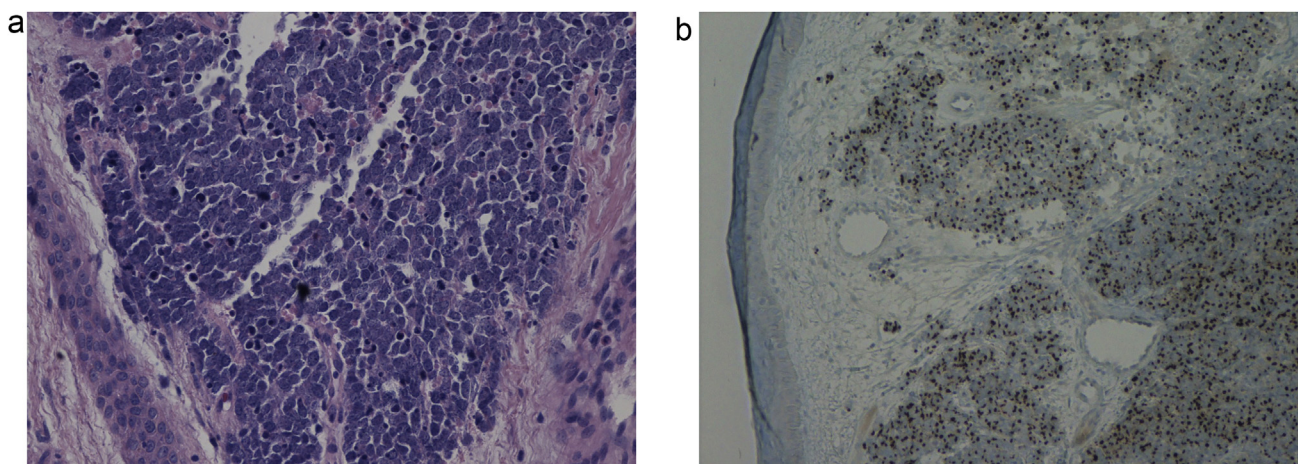
In the histopathological examination of the dermis, diffuse infiltration of hyperchromatic atypical cells with a scanty cytoplasm of immunophenotype: CKAE1/3(+)dot-like; CK20(+)dot-like; SYN(+), CgA(±), TTF-1(-), LCA(-), Ki67(+) approx. 90%. The whole picture speaks in favor

of cutaneous neuroendocrine carcinoma (Merkel cell carcinoma) (Fig. 2A and B).

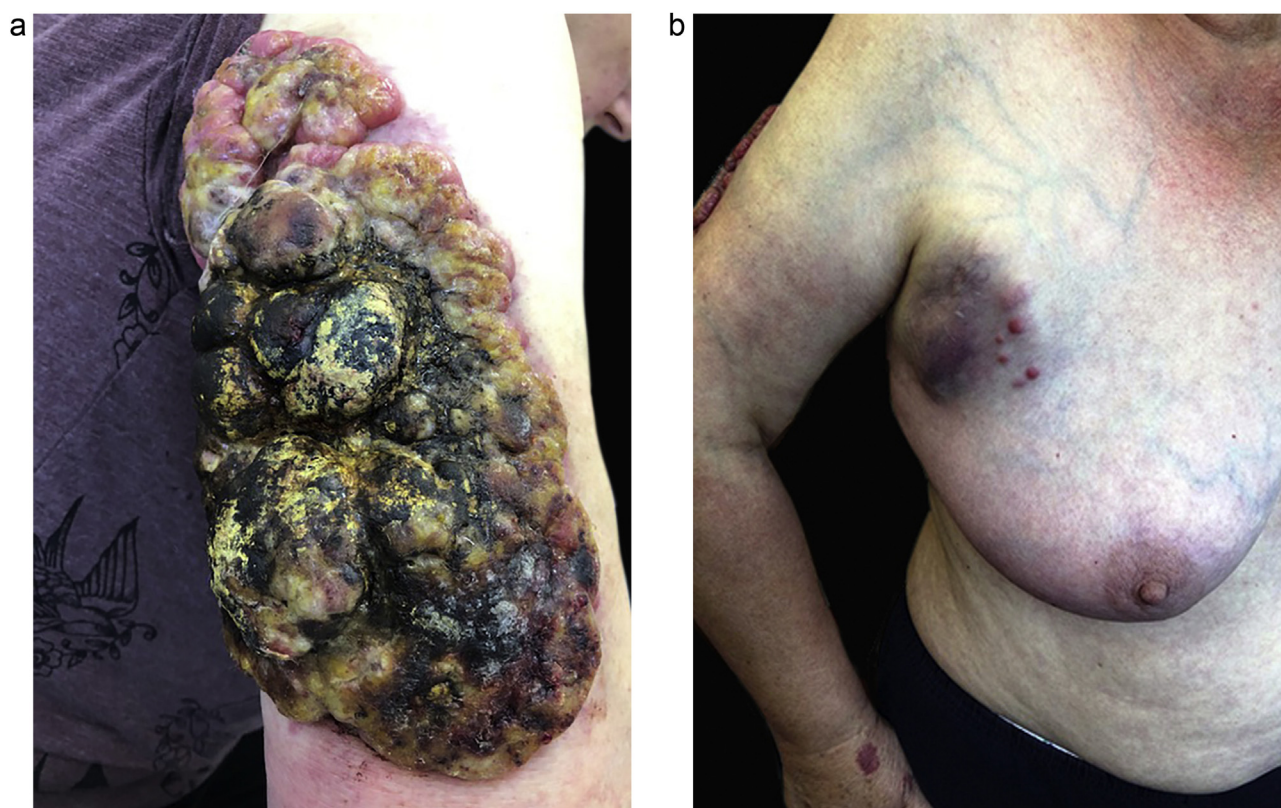


**Figure 1** A large pink, erythematous nodule on the skin of the right arm.

<sup>☆</sup> Study conducted at the Department of Dermatology, Provincial Specialist Hospital in Slupsk, Ustka, Poland.



**Figure 2** Typical histopathologic appearance of Merkel cell carcinoma. (A) Large nodular collections crowded basaloid cells in the dermis and subcutis with foci of necrosis. Aggregations of tumor cells form interanastomosing cords in the dermis in a trabecular pattern with some infiltrate strands of cells in the deep reticular dermis, (Hematoxylin & eosin, 100 $\times$ ). (B) CK-20 immunohistochemical staining in merkel cell carcinoma shows a paranuclear dot pattern. CK-20 40 $\times$ .



**Figure 3** (A) Recurred of disease – Giant, outgrown MCC tumor (01. September). (B) Multiple subcutaneous in transit metastases of an MCC.

The patient was transferred to the oncological surgery ward for further treatment. At the beginning of november 2018, the sentinel lymph node biopsy of the right armpit was performed together with the excision of the tumor of the right arm.

In the histopathological examination: lymph nodes with obliterated structure with infiltration of small lymphocytes of immunophenotype: CD3(-), CD20(+), CD5(+), CD23(+),

cyclin D1(-), Ki67(+) 20%. The whole picture corresponds to the infiltration of small B Lymphocytes (B-SLL/CLL). In the immunohistochemical test: CKAE1/3(-), CgA(-). The histopathological exam after the excision of a skin tumor confirmed Merckell cell carcinoma.

The cycle of six chemotherapy has started (Cisplatin, Etoposide, Netupitant Palonosetron, Dexamethasone, Mannitol).



**Figure 4** Condition after radiotherapy (first cycle) and surgical debridement.

Since August 2019, aggressive disease recurred (Fig. 3A). Physical examination revealed an overgrown tumor of the right arm (35 × 16 cm) in the peak phase before radiotherapy) with a cohesive consistency, a solid arrangement of nest-like masses, surrounded by inflammation. Moreover, in the area of the right armpit and the right side, enlarged, inflammatory lymph node packages (metastases) were observed (Fig. 3B).

Laboratory tests: lactate dehydrogenase – LDH: 950, CRP: 213.

In September, started low voltage, local radiotherapy treatment of 120 Gy per fraction of 20 Gy, in 6 sessions.

After the important improvement after the second session (Fig. 4) and the surgical debridement of the tumor, there were new metastases.

Unfortunately the patient died in December after 1.5 years from the Merkel cell carcinoma diagnosis.

## Discussion

Merkel cell carcinoma is an aggressive neuroendocrine carcinoma with a high rate of metastasis and 5-year overall survival<sup>1,2</sup>.

It occurs preferentially in the elderly or immunocompromised and is most often localized in a photoexposed area, in particular on the face. The average age at diagnosis being 69 years<sup>3</sup>.

The discovery of a new polyomavirus, McPyV, has shed a different light on the pathogenesis of this tumor. The integration of a polyomavirus-like virus clone into the genome of Merkel tumor cells has been objectified (named "Merkel

cell polyomavirus" – MCPyV), thus suggesting a viral etiology. However, the viral infection alone is not enough to induce a malignant transformation<sup>4,5</sup>.

Currently, it is still unclear whether the polyomavirus is associated with MCC or the UV is associated with MCC.

Due to the clinically unspecific primary lesion, the clinical diagnosis of Merkel cell carcinoma it is often done late. The acronym AEIOU was developed to provide assistance in finding the diagnosis: A = Asymptomatic/lack of tenderness, E = Expanding rapidly (doubling in 3 months), I = Immunosuppression, O = Older than 50 years, U = Ultraviolet-exposed skin site<sup>6</sup>. Our case met the five above criteria.

So far, 12 cases of giant MCC tumors have been described.

The largest tumor of the MCC was described by authors from the USA on the right forearm of an 84-year-old man (23 × 18 cm)<sup>7</sup>. This particular patient responded well to radiation therapy.

Authors from Italy described a giant Merkel cell carcinoma of the left arm of a 76-year-old woman (13 × 10 cm)<sup>8</sup>.

So far, a larger tumor than the one we presented has not been described (35 × 16 cm).

The treatment of choice for MCC is still the complete excision with a 1–2 cm safety margin and subsequent irradiation in the tumor bed regional lymph node stations<sup>9</sup>.

Regardless of the SLNB result, adjuvant irradiation of the primary tumor bed is recommended for all patients.

Advances in the treatment of MCC in recent years have led to the FDA-approved drug – the immune checkpoint inhibitor avelumab, a PD-1 antagonist.

In the case of our patient, this drug was reported to the Polish healthcare system in order to obtain it for treatment. However, the patient did not manage to take this drug.

The course of MCC is rarely as aggressive and as fast as in our patient. Failure of chemotherapy and radiotherapy, multiple metastases, and death 1.5 years after diagnosis were certainly related to the deficiency of the immune system.

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## Authors' contributions

Piotr Brzeziński: Concepts; Design; Clinical studies; Data acquisition; Statistical analysis; Manuscript preparation.

Justyna Słomka: Concepts; Design; Definition of intellectual content; Clinical studies; Data analysis; Manuscript preparation; Manuscript editing; Manuscript review.

Aleksandra Kitowska: Clinical studies; Data acquisition; Data analysis; Statistical analysis.

César Bimbi: Definition of intellectual content; Clinical studies; Data analysis; Statistical analysis; Manuscript editing; Manuscript review.

## Conflicts of interest

The authors have no conflict of interest to declare.

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## Keratotic papules on the thigh: underrecognized skin manifestations of dermatomyositis or Wong-type dermatomyositis?<sup>☆</sup>



Dear Editor,

A 53-year-old female, who was admitted to the Rheumatology Department of our hospital, complaining of muscle weakness and joint pain, was referred to us regarding the skin symptoms which appeared 4 months previously. Physical examination revealed forehead and nasolabial erythema, periungual erythema, scaly erythema on the left knee, keratotic erythematous patch on the dorsum of metacarpophalangeal joint (Gottron's sign), and keratotic lesion on the radial aspect of the second fingers (mechanic's hand). In addition, small reddish, keratotic papules and papular erythemas were disseminated on the lateral aspects of the right thigh (Fig. 1). Laboratory examination showed elevation of aspartate aminotransferase (180 U/L), alanine aminotransferase (100 U/L), lactate dehydrogenase (487 U/L), creatine kinase (3506 IU/L), aldolase (35.8 U/L), and myoglobin (1230 ng/mL). The antinuclear antibody was positive (1:1280, speckled). Serum antibodies against TIF-1γ (48.0 index; normal <32) and Mi-2 (>150 index; normal <53) were elevated, whereas both anti-Jo-1 and anti-MDA-5 antibodies were normal. Serum KL-6 level was normal, and no interstitial lung disease (ILD) was detected. Skin biopsy revealed a keratotic plug, epidermal atrophy, liquefaction of the

basal layers, individual cell keratinization, and infiltration of inflammatory cells in the papillary dermis (Fig. 2). No internal malignancy was detected by a detailed examination. An electromyogram of the biceps muscle revealed a myogenic



Figure 1 Clinical features of follicular papules on the thigh.

<sup>☆</sup> Study conducted at the Fukushima Medical University, Fukushima, Japan.