Because a specific IgE antibody test for jellyfish was unavailable, a prick-to-prick test for dried and salted jellyfish (Marutomo Co, Ltd, Japan) was performed to identify the causative food. The jellyfish was the same as the ones that he had eaten before he developed anaphylaxis and was made using *Cephea cephea*. The test showed a positive reaction at 15 minutes with a wheal diameter of 5 × 6 mm, which was as strong as a positive reaction produced by house-dust mite with a diameter of 6 × 7 mm (Torii Pharmaceutical Co, Ltd, Japan) *(figure 1)*. The negative control of normal saline showed no reaction. Two healthy volunteers, as negative controls, showed no reaction to the jellyfish. Consequently, the patient was diagnosed with anaphylactic shock as a result of jellyfish ingestion. With the elimination of jellyfish from his diet, the patient was doing well at his one-year follow-up, without any other allergic reactions.

Jellyfish are known to be a traditional delicacy in some Asian countries, such as Japan, China, and Korea. Nowadays, dried and salted jellyfish is increasingly popular throughout the world because of increasing diversity between cultures in foods on offer, increasing consumer demand and the advancement of preservation methods. After the jellyfish are rehydrated, they are cooked as an appetizer or salad and used in Asian food restaurants [2].

It is a well-known fact that jellyfish cause most marine envenomation worldwide and most of the cutaneous manifestations following jellyfish contact or stings are due to the direct toxic effect. On the other hand, allergic reactions caused by jellyfish contact, stings and ingestion are not well-understood. Acute allergic reactions, such as urticaria, arise in 4.9% of cases of jellyfish stings [3] and a few cases of anaphylaxis after jellyfish stings have been reported [4, 5].

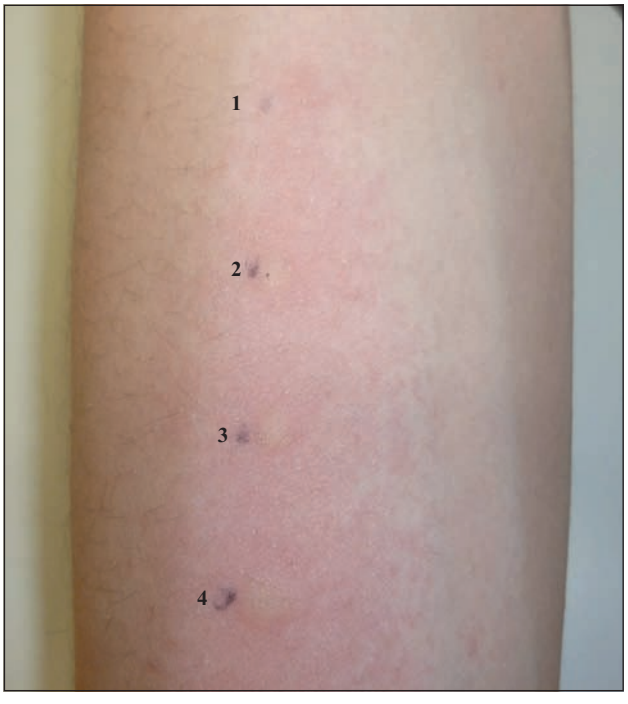

Figure 1. Results of the prick-to-prick test. The positive reaction to jellyfish (2, 3) was comparable to that of house dust-mite (4), and the reaction to normal saline (1) was negative.

Anaphylaxis after jellyfish ingestion is extremely rare; however, recently, two cases of anaphylaxis after jellyfish ingestion have been reported in patients with a history of frequent jellyfish stings [1, 6]. In both cases, the authors speculated that sensitizations to jellyfish were primarily established through contact with jellyfish tentacles and that anaphylaxis was subsequently induced by the consumption of jellyfish.

However, our patient had no history of jellyfish contact or stings. Thus, his sensitization to jellyfish may have been caused by a different mechanism from jellyfish sting. Furthermore, we speculated possible cross-reactivity and searched for specific IgE antibodies against tropomyosin and other types of seafood, which were all negative. Therefore, it is possible that an unknown antigen induced the sensitization to the jellyfish or that the patient had ingested jellyfish long before this anaphylactic event without knowing, which caused the sensitization. Although further investigations are needed, clinicians should be cautious of the possibility of anaphylaxis caused by jellyfish ingestion, with or without a history of jellyfish contact or sting. ■

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[1] Department of General Pediatrics,
[2] Division of Allergy,
Tokyo Metropolitan Children's Medical Center
2-8-29 Musashidai, Fuchu,
Tokyo 183-8561, Japan
<sunning_dale@yahoo.co.jp>

Yusuke OKUBO[1]
Koichi YOSHIDA[2]
Mayumi FURUKAWA[2]
Mari SASAKI[2]
Hiroshi SAKAKIBARA[1]
Toshiro TERAKAWA[1]
Akira AKASAWA[2]

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Concurrent Merkel cell carcinoma and squamous cell carcinoma in a chest nodule

Merkel cell carcinoma (MCC) is a highly virulent neuroendocrine cutaneous neoplasm. MCC occasionally coexists with other diseases [1]. Herein, we describe a case of MCC concurrent with squamous cell carcinoma (SCC) in the same chest nodule.

A 73-year-old man presented with a 2-year history of an irregularly shaped erythematous patch on his chest. One month earlier, a painless, bleeding and rapidly growing erythematous nodule had developed on the patch. Physical examination revealed a reddish, protruding, bleeding nodule of 33 × 31 × 12 mm in size on the brown macule on the right chest (*figure 1A*). The patient's family history and previous medical history were non-contributory. The patient was not in an immunosuppressed state in this case. Based on these findings, a complete polypectomy was performed for suspected SCC. Histopathologically, the nodule had two distinct cell populations (*figure 1B*): atypical pleomorphic, keratinizing cells with horn pearls (*figure 1C*) and basophilic tumor cells extending from the upper dermal layers to the deep dermis with no connections to the epidermis. The basophilic tumor component was hypercellular and composed of small ovoid cells with scant cytoplasm and hyperchromatic nuclei. Rosette structures were also observed in the lesion (*figure 1D*). The basophilic neoplastic cells expressed cytokeratin (CK) 20 with a dot-like perinuclear pattern. In addition, immunohistochemical staining for neuroendocrine markers (e.g., chromogranin A, synaptophysin, and CD 56) was positive. Electron microscopy revealed dense core granules in the basophilic neoplastic cells. A diagnosis of MCC concurrent with SCC was made. The flat part of the lesion surrounding the nodule showed no *in situ* SCC or *in situ* component of the MCC. Staining for CK20 was negative in SCC, and it showed dot-like reactivity in MCC (*figure 1E*). Although the patient had no recurrence or metastasis after complete polypectomy, he died of respiratory failure associated with aspiration pneumonitis 1 year and 4 months after surgery.

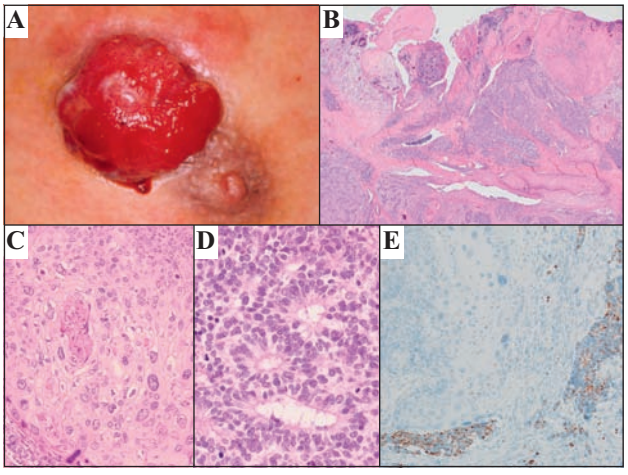

Figure 1. A) Physical examination revealed a reddish, protruding, bleeding nodule on the right chest. **B)** Histopathological examination of the nodule had two distinct cell populations (hematoxylin and eosin stain). **C)** Histopathological examination of the tumor revealed atypical pleomorphic, keratinizing cells and epidermal connections (hematoxylin and eosin stain). **D)** Histopathological examination revealed that the basophilic tumor component was hypercellular and composed of small ovoid cells with scant cytoplasm and hyperchromatic nuclei. Rosette structures were also observed in the lesion (hematoxylin and eosin stain). **E)** Immunohistochemical staining revealed no positivity for CK20 in SCC but dot-like reactivity in MCC.

MCC is a rare tumor that occurs predominantly in elderly patients and on sun-exposed areas of the skin. Histopathologically, monomorphic dermal and/or subcutaneous nodules comprising hyperchromatic, round or oval, medium-sized cells with sparse cytoplasm are observed. A rosette structure is often seen in MCC. Our patient characteristically showed many clear rosette structures. MCC cells express CK 20 with a dot-like perinuclear pattern in 87% of patients [2]. MCC is usually observed as a solitary lesion but is occasionally found to coexist with other diseases [1].

The possible causes of concurrent MCC and other diseases are (1) development of both carcinomas from common precursor cells and (2) simultaneous development of both carcinomas under a common carcinogenic influence such as chronic sun exposure [1, 3].

MCC and SCC were observed in proximity in our patient; however, no distinct continuity or transitional features were detected, and the carcinomas developed on a non-sun-exposed area of the chest, suggesting the involvement of a common carcinogenic factor other than chronic sun exposure in the concurrent development of MCC and SCC.

Merkel cell polyomavirus (MCPyV) has recently been reported to affect MCC development, and MCPyV has been detected in some patients with SCC [4, 5]. It has been suggested that the detection of MCPyV in SCC is coincidental and does not indicate an infection [6]. However, because Mitteldorf *et al*. [7] detected MCPyV in a case of combined MCC and SCC, we evaluated the presence of MCPyV DNA by using standard polymerase chain reaction (PCR) and real-time PCR analysis in our patient. MCPyV was not detected on standard or real-time PCR.

Based on the above results, we cannot rule out the possibility that the occurrence of MCC concurrently with SCC in our patient was coincidental. Although the underlying mechanism remains unelucidated, MCC frequently occurs concurrently with SCC; therefore, these results suggest the presence of a common carcinogenic influence (e.g. human papilloma virus (HPV) [7, 8]) other than chronic sun exposure or MCPyV. Although HPV was not examined in our patient, more cases are required to confirm any connection between HPV and MCC. Meanwhile, when MCC is found concurrently with another tumor, both may have developed from the same histologic region [8-10]. In our patient, no distinct continuity or transitional features were detected in the SCC or the MCC, suggesting that they may have developed by a different mechanism. ■

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[1] Department of Dermatology,
[2] Department of Pathology,
Toho University Ohashi Medical Center,
2-17-6, Ohashi, Meguro-ku,
Tokyo 153-8515, Japan
[3] Department of Microbiology and Infection,
Kochi Medical School, Kochi, Japan
<h-fukuda@med.toho-u.ac.jp>

Misaki TAKAHASHI[1]
Hidetsugu FUKUDA[1]
Yuki YOKOUCHI[2]
Yumiko HASHIDA[3]
Masanori DAIBATA[3]
Hideki MUKAI[1]

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Nail dermoscopy is a helpful tool in the diagnosis of onychomycosis: A case control study

The diagnosis of onychomycosis is moving from clinicopathologic tools, which are time-consuming and give false negative results in up to 35% of cases [1], into clinicoimaging diagnosis [2]. Distinctive dermoscopic features for onychomycosis have been reported [3-5]. Our aim was to confirm these distinctive features and to correlate their association with invasive diagnostic tools for onychomycosis.

After approval of the Dermatology Research Ethical Committee of the Faculty of Medicine, Cairo University, this case control study included 40 patients with clinically diagnosed onychomycosis and 40 healthy controls. All subjects were subjected to clinical examination, dermoscopic examination using Dermlite II PRO HR (3Gen, USA), digital photography and nail clipping for histopathological and microbiological examination (direct examination and culture).

Statistical analysis of data was done using SPSS (statistical program for social science version 18). The chi-square test was used to compare qualitative variables. Both sensitivity and specificity for significant findings were calculated. A *P* value <0.05 was considered significant.

This study included 80 subjects (40 with onychomycosis and 40 controls). Patients with onychomycosis were 4 males (10%) and 36 females (90%). All patients (100%) presented clinically with distal and lateral subungual onychomycosis (DLSO). 21 patients (52%) were KOH positive and 35 patients (87.5%) had positive cultures (2 patients (5%) had dermatophytes, 21 patients (52.5%) had non-dermatophytes and 12 patients (30%) had candida). 22 patients (55%) showed positive histopathological findings (spores and/or hyphae invading the tissue).

All patients had nail spikes (sharp longitudinal whitish indentations directed to the proximal nail fold, found at the jagged edge of the proximal margin of the onycholytic area), 33 patients (82.5%) had longitudinal striations (white-yellow longitudinal striae in the onycholytic nail plate) and 39 patients (95%) had color changes *(figure 1)*.

This study included 40 age and sex matched healthy controls; 11 males (27.5%) and 29 females (72.5%). All controls had negative KOH, culture and histopathological findings. None showed nail spikes or longitudinal striations on dermoscopic examination. Ten controls (25%) had color changes.

The presence of spikes, longitudinal striations and color changes was statistically significantly higher in patients than controls (P<0.001). Spikes and longitudinal striations were present only in onychomycosis, with a specificity of 100%. Spikes were present in 40/40 cases of onychomycosis and 0/40 cases of controls, with sensitivity 100%. Longitudinal striations were seen in 33/40 cases of onychomycosis and 0/40 cases of controls, with sensitivity 82.5%, 95% CI = 67.21-92.63%. Color changes were seen in 38/40 cases of onychomycosis and in 10/40 cases of controls, with sensitivity 95%, 95% CI = 83.05-99.24%.

All onychomycosis cases diagnosed by KOH, fungal culture or histopathology showed dermoscopic nail spikes. The presence of longitudinal striations was also statistically significantly higher in patients with positive cultures (P = 0.008) compared with patients with negative cultures.

Dermoscopy is a helpful tool in the diagnosis of onychomycosis or to avoid other more invasive diagnostic tools if we cannot find significant dermoscopic findings. In this study, the presence of distinctive dermoscopic findings, such as spikes, longitudinal striations and color changes, was statistically significantly higher in patients than controls. Spikes and longitudinal striations were only present in the cases of onychomycosis. The sensitivity of spikes in onychomycosis was 100% and that of longitudinal striations was 82.5%. These findings agree with others [3, 4]. The presence of these longitudinal spikes corresponds to the onset of fungal invasion [4]. Color changes in this study were seen in most

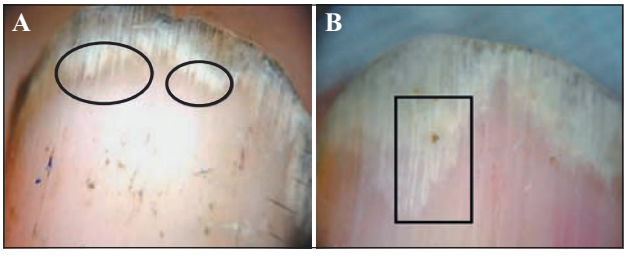

Figure 1. Onychomycosis: **(A)** Spikes at the proximal margin of the onycholytic area, **(B)** Longitudinal striations; white-yellow longitudinal striae in the onycholytic nail plate.