タイトル	Dysphagia secondary to dermatomyositis associated with transitional cell carcinoma of the bladder
別タイトル	膀胱移行上皮癌を併発し嚥下障害を伴った皮膚筋炎の1例
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Case Report

Dysphagia Secondary to Dermatomyositis Associated with Transitional Cell Carcinoma of the Bladder

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ABSTRACT: Transitional cell carcinoma (TCC) of the bladder is the most common tumor of the urinary tract. However, there have been very few reported cases of paraneoplastic dermatomyositis (DMM) associated with transitional cell bladder carcinoma. We report such a case in a patient who presented with pathologic evidence of well differentiated TCC, stage pTaG2, and DMM. The patient later developed dysphagia, which was presumably secondary to DMM. Clinical symptoms of DMM improved after surgical resection of the carcinoma. Symptoms ultimately resolved after high-dose methylprednisolone treatment and swallowing retraining by speech therapists. Clinicians need to be aware of the increased risk of malignancy in patients with DMM. Such malignancies can be detected before, concurrent with, or after diagnosis of DMM. Carcinoma of the urinary bladder should be added to the list of malignancies that are complicated by paraneoplastic DMM. Hematuria is suggestive of an occult urological malignancy. Dysphagia in DMM is associated with a poor prognosis unless recognized early.

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KEYWORDS: dermatomyositis, dysphagia, transitional cell carcinoma, urinary bladder cancer

Dermatomyositis (DMM) is an idiopathic inflammatory myopathy with characteristic cutaneous manifestations and often occurs as a paraneoplastic manifestation of an internal malignancy.[1–4] A variety of primary malignancies are associated with DMM. Several studies[5,6] have shown that the incidences of DMM-associated malignancies parallel those of the prevalent cancers in a population. However, other studies[7] have suggested that cancers of the lung, ovary, and lymphatic and hematopoietic systems are more frequently associated with DMM. Herein, we report a case of dysphagia secondary to DMM associated with transitional cell carcinoma (TCC) of the urinary bladder.

Case Report

A 71-year-old Japanese man presented in April 2008 with a 6-month history of color changes to his face. A rash had developed on his neck and spread to his face. It was pruritic and moderately uncomfortable. The patient had weakness on neck flexion/extension, symmetrical proximal muscle weakness, and dysphagia. His past medical history was notable only for hypertension. He reported no current medication use and no use of new medications in the month before the onset of the rash.

Physical examination revealed widespread erythema of the face, neck, and shoulders. The rash was purplish, with

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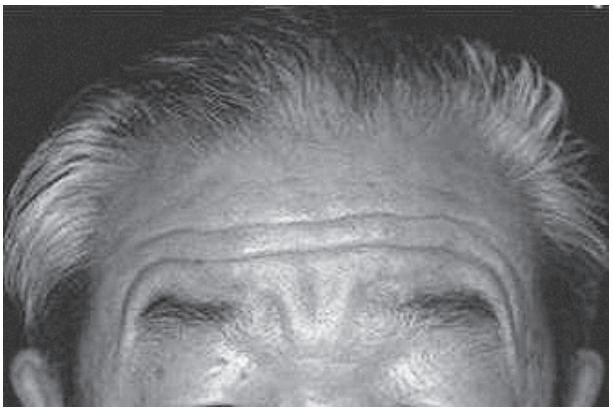

Fig. 1 Photograph showing faint heliotrope rash and periorbital edema.

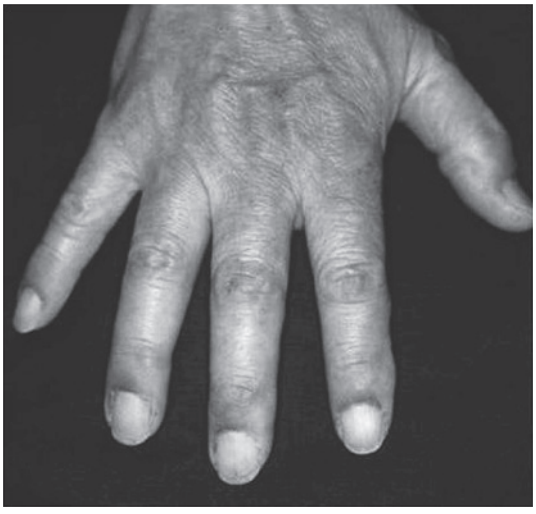

Fig. 2 Photograph showing periungual lesions with hemorrhage.

papular lesions. A faint heliotrope rash was observed on his eyelids, and Gottron's papules were noted on the dorsal surface of his proximal interphalangeal joints bilaterally. The remaining findings of the physical examination were unremarkable (Fig. 1, 2).

A chest radiograph was unremarkable, and a neuromuscular examination showed normal strength bilaterally and normal reflexes. An electromyogram of his proximal muscles showed decreased amplitude and duration of motor unit action potentials, increased insertional activity, and fibrillation.

A 4-mm punch biopsy of skin from the patient's anterior arm showed epidermal atrophy with focal vacuolar alteration. We also noted superficial, perivascular, interstitial, chronic inflammatory infiltrate that comprised mostly mononuclear cells (Fig. 3). Direct immunofluorescence was

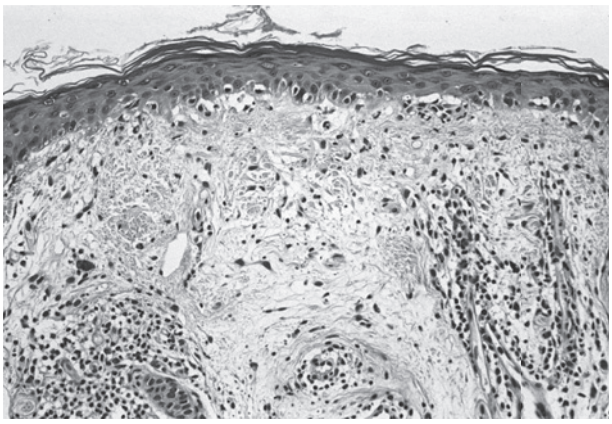

Fig. 3 Hematoxylin and eosin (H&E) stain of tissue from a skin biopsy from the right forearm showing epidermal atrophy, focal vacuolar alteration, and thickened basement membrane (×100)

negative for IgG, IgM, IgA, C3, and fibrin deposition. A muscle biopsy was not performed.

The diagnosis of DMM was confirmed by the presence of high levels of serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), creatine kinase (CK; 4440 IU/L, normal range 0–250 IU/L), and aldolase (33.8 IU/L, normal range 2.5–5.8 IU/L) and a skin biopsy that was histologically consistent with DMM. The erythrocyte sedimentation rate (ESR) was elevated at 20 mm/hr, the serum antinuclear antibody titer was 1:160 (homogeneous pattern), and anti Jo-1 was negative. A radiograph and computed tomography scan of the chest and abdomen were normal. Urinalysis revealed microscopic hematuria and atypical cells. Cystoscopy revealed an extensive mixed papillary and solid bladder tumor, and the patient was admitted for transurethral resection of the bladder tumor (TUR-Bt). Bladder histopathology showed a well differentiated TCC invading the lamina propria (G2 pTa) (Fig. 4).

The patient was treated with methylprednisolone 60 mg (1 mg/kg) daily (with a bisphosphonate cover) and discharged. We continued careful follow-up to detect any additional underlying malignancies. Muscular strength and cutaneous symptoms clinically improved, and CK decreased to 44 IU/L. The steroid dose was gradually tapered. Ten days later, he was admitted with a 4-day history of rapidly deteriorating dysphagia. He was unable to swallow food or liquids because attempts to do so provoked coughing. X-ray videofluoroscopy with barium showed discoordination during all stages of swallowing and aspiration of barium into the larynx after swallowing (Fig. 5). During a 3-month period, oral prednisolone was

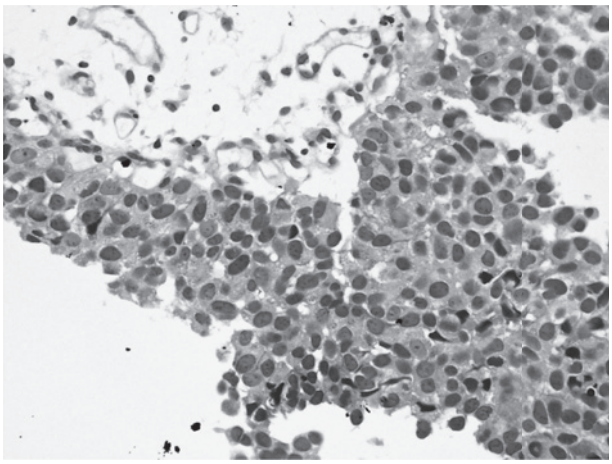

Fig. 4 Hematoxylin and eosin (H&E) stain of tissue from a biopsy of the bladder showing well differentiated transitional cell carcinoma (×400)

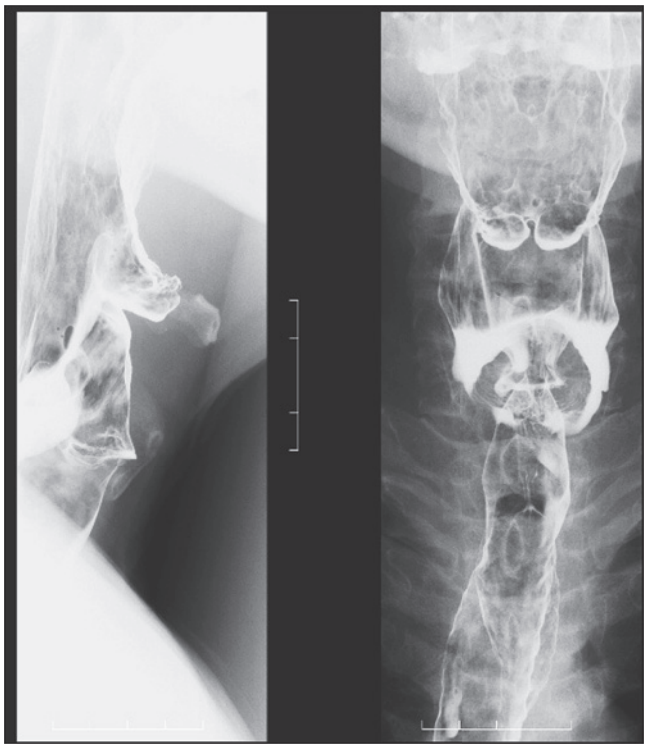

Fig. 5 Videofluorographic image showing post-swallowing pooling of contrast media in the larynx.

gradually reduced to 10 mg on alternate days with no relapse of muscle weakness, rash, or dysphasia. At this writing, it has been 1 month since the beginning of speech therapy to increase the strength of oropharyngeal structures, improve saliva swallowing, and train posture maneuvers.

Discussion

DMM has long been considered a paraneoplastic syndrome, and an associated occult internal malignancy was reported in approximately 25% of patients (range, 6% to 50%).[5] Malignancies commonly linked with DMM are cancers of the ovary, lung, gastrointestinal tract, and testicles; however, associations with other cancers have also been reported.[8] An association with bladder cancer is unusual.[9] A PubMed search (keywords: dermatomyositis urinary bladder cancer) revealed 19 cases in which DMM was associated with urinary bladder cancer. Dysphagia, oropharyngeal dysfunction, and diaphragmatic involvement were frequent in DMM associated with cancer, although the prevalence of dysphagia did not significantly differ between patients with cancer-associated DMM and those with primary DMM.[10, 11]

Hafejee & Coulson reported a case of severe dysphagia in a patient with DMM secondary to bladder cancer. Dysphagia occurs in 10% to 73% of patients with inflammatory myopathies.[12] The skeletal muscle-activated oropharyngeal phase of swallowing is clearly affected, which increases the incidences of malnutrition and aspiration pneumonia.[13] Horrowitz et al. found a high incidence of gastric and esophageal motor dysfunction in patients with DMM and polymyositis, which suggests that smooth muscle is also affected.[14] A multidisciplinary approach to therapy is necessary, and speech therapists are essential in facilitating recovery. X-ray videofluoroscopic assessment can help identify pharyngeal pooling, impaired retraction at the tongue base, decreased laryngeal elevation, and cricopharyngeal dysfunction.[14, 15]

Conclusions

Carcinoma of the urinary bladder should be added to the list of malignancies that paraneoplastic DMM can complicate. Clinicians need to be aware of the increased risk of malignancy in patients with DMM. Such malignancies are detected before, concurrent with, and after diagnosis of DMM. Hematuria is useful in screening for occult urological malignancy. Dysphagia in DMM is associated with a poor prognosis, unless recognized early.

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膀胱移行上皮癌を併発し嚥下障害を伴った皮膚筋炎の1例

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要約：膀胱の移行上皮癌は尿路系の悪性腫瘍においては比較的頻度が高い疾患である．しかし皮膚筋炎と関連した腫瘍随伴症候群として膀胱癌が関与した症例は少ない．今回われわれは71歳男性の皮膚筋炎に内臓悪性腫瘍の精査にてpTaG2の高分化型移行上皮癌が判明し，その後嚥下困難を生じた1例を経験したので報告する．嚥下困難は膀胱癌切除後に症状は徐々に改善していき，さらに高容量のステロイド全身投与と言語療法士による嚥下訓練が奏効したと考えた．われわれ臨床医は皮膚筋炎の患者において悪性腫瘍の存在するリスクが増加することを認識する必要があり，発見されるのは皮膚筋炎の診断の前もしくは後か同時である．皮膚筋炎に膀胱癌を併発する例は比較的まれである．しかし尿検査における潜血反応が比較的容易に施行できるため早期発見には有用と考える．

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