

Case Report

A case of pityriasis rotunda with anorexia nervosa

兼有圓糠疹及神經性厭食症的病例個案

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Pityriasis rotunda is characterised by asymptomatic, multiple, isolated or confluent, hyperpigmented or hypopigmented oval or round scaly patches on the trunk and extremities. It has been associated with various systemic diseases. We herein report a case of pityriasis rotunda occurring in a 29-year-old female patient with anorexia nervosa.

圓糠疹的特點是在軀乾和四肢有著多發、孤立或融合的無症狀色素沉著或色素減退的橢圓形或圓形鱗狀斑塊。它曾被報告與多種全身性疾病有關。我們在此報告一例二十九歲神經性厭食症女性患者身上長出圓糠疹。

Keywords: Anorexia nervosa, Malnutrition, Pityriasis rotunda

關鍵詞：神經性厭食症、營養不良、圓糠疹

Introduction

Pityriasis rotunda is a rare disease occurring on the trunk and limbs, characterised by discrete, circular or oval, and scaly patches.¹⁻⁵ Patches tend to be darker or lighter than skin tone, and are asymptomatic. Histological manifestations are similar to those of ichthyosis vulgaris.³⁻⁷ The incidence of pityriasis rotunda is higher among dark-skinned populations. Its pathogenesis is unclear although it is believed to be a variation of

ichthyosis vulgaris, or caused by systemic diseases. Familial predisposition and exacerbation during pregnancy are reported.¹⁻³

We report a case of pityriasis rotunda in a woman with anorexia nervosa, and present a literature review on Korean cases of pityriasis rotunda.

Case report

A 29-year-old woman presented to our hospital with a chief complaint of multiple circular scaly patches on the back and limbs (Figure 1). Multiple asymptomatic, scaly patches began to appear on the torso three years previously, and the patches had increased in number over time. She had a history of anorexia nervosa diagnosed in May 2007, and was taking antidepressants (sertraline HCl), sedatives (alprazolam), and sleeping pills

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(zolpidem tartrate). The doses of these psychotropic medications were significantly increased in the prior year prior because the patient had failed to control her inappropriate eating behaviour, and had lost a significant amount of weight. She did not have any significant family history. The patient was very thin, 165 cm in height and 40 kg in weight, with a Body Mass Index (BMI) of 14.7. Multiple circular, brown, scaly patches measuring 3-4 cm in diameter were observed on the patient's torso and limbs. No other skin abnormalities were observed.

KOH test and Wood's lamp skin examination of the lesions were negative. Her haemoglobin level was low at 9.5 g/dl (normal, 14-18 g/dl). Laboratory tests also showed low total protein and albumin levels at 5.3 g/dl (normal, 6.7-8.3 g/dl) and 3.0 g/dl (normal, 3.1-5.2 g/dl), respectively. Thyroid function test, human immunodeficiency virus antibody screening, and tumour markers (AFP, CA 19-9, and CEA) were evaluated to rule out other underlying diseases. All results were negative or within normal range. Chest X-ray was also done and revealed normal findings without evidence of lung cancer or pneumonia.

Biopsy of the lesions showed a reduced granular layer, horny plugs, and infiltration of lymphocytes around blood vessels in the upper layers,

confirming the diagnosis of pityriasis rotunda (Figure 2). The patient was treated with local steroids and humectants on the first day of admission, but her symptoms did not improve. Accordingly, she was treated for two more weeks with systemic retinoids and showed partial improvement. The treatment is ongoing, and the patient is currently being followed.

Discussion

Pityriasis rotunda was first reported by Toyama in Japan in 1906 as "pityriasis circinate". The name was changed to pityriasis rotunda by Matsura in the same year.^{4,5}

Pityriasis rotunda affects all ages, but occurs most commonly among those aged 20-45 years. The male:female ratio is 1:1.5.⁶ Its clinical manifestations are discrete, scaly, brown pigmented patches that are circular or oval. Patches range in size from 0.5 cm to 28 cm, and the number of patches ranges from 1-28. Sometimes, several patches may fuse to form a single lesion. They commonly present as hyperpigmented patches, but may appear as hypopigmented patches on lighter skin. The patches develop on the torso and limbs, and may persist for several months to over 20 years

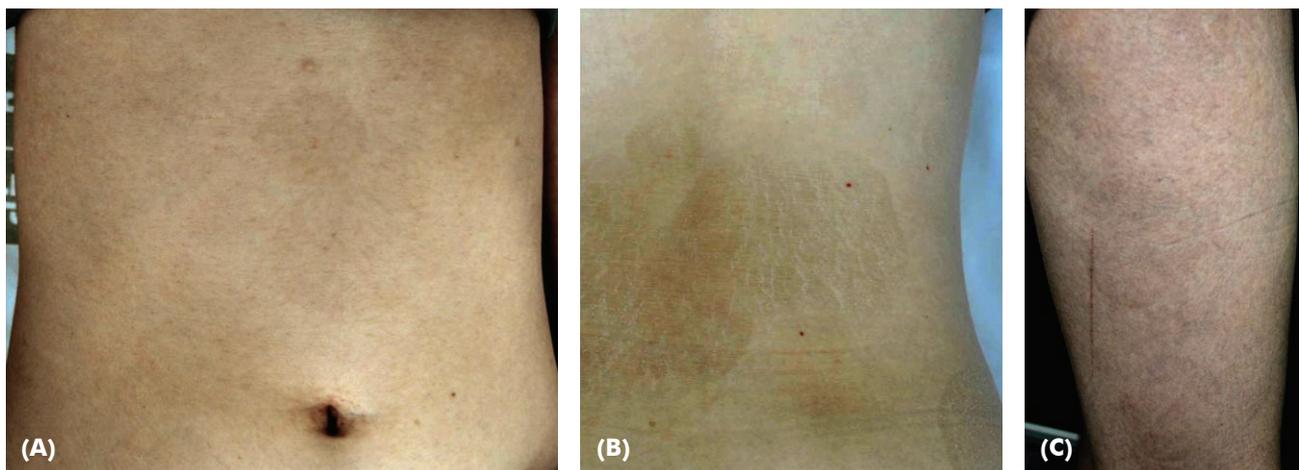


Figure 1. Well-defined, round, 3 to 4cm sized, scaly brown patches on her trunk and right leg.

although they tend to fade in summer but worsen in winter. The lesions are usually asymptomatic, but may rarely be accompanied by itching.⁷

Histopathological features of pityriasis rotunda include hyperkeratosis, horny plugs, partial or complete loss of the granular layer, and increased basal layer pigmentation. The dermis may be normal, or may show mild lymphocyte infiltration around blood vessels in the upper layer. Since pityriasis rotunda shares similar clinical manifestations with ichthyosis vulgaris, it is viewed as a variation of this disease.^{5,7-10}

The cause of pityriasis rotunda is unclear. Most researchers consider pityriasis rotunda a variation of ichthyosis vulgaris, or a skin lesion caused by multiple systemic diseases. Family predisposition has been reported.^{2,3} Pityriasis rotunda may be accompanied by infectious diseases such as tuberculosis and leprosy, chronic diseases of the liver, kidney, and respiratory system, disease-associated malnutrition, diseases of the female respiratory organs, endometriosis, hormonal changes during pregnancy, and malignancies in various organs including the liver, stomach, oesophagus, and haematological system.^{1,8-12}

Our patient was diagnosed with anorexia nervosa four years previously and was taking

antidepressants, sedatives, and sleeping pills. Her medication doses were increased one year previously to improve psychiatric symptom control, and the number of skin lesions had since increased. At the time of presentation, the patient was extremely underweight (BMI: 14). Laboratory test results showed low total protein and albumin levels, suggesting chronic malnourishment. Malnutrition was possibly due to essential lipid or vitamin deficiency due to anorexia nervosa. Given the lack of evidence of other underlying diseases, it is possible that pityriasis rotunda developed in this patient due to malnutrition. Pityriasis rotunda may also be linked to the severity of anorexia nervosa and specific medications used by the patient, since the patient had increased her medication doses. However, there are no published reports on the association between medication use and pityriasis rotunda. To determine the aetiology of pityriasis rotunda in this case, it is necessary to monitor changes in the patient's symptoms as well as changes in medication use. Additional tests must be performed to identify other underlying diseases.

Grimalt et al classified pityriasis rotunda into two types:² Type 1 occurs among African and Asian populations regardless of family history, is characterised by hyperpigmentation, usually presents with 30 or fewer lesions and is

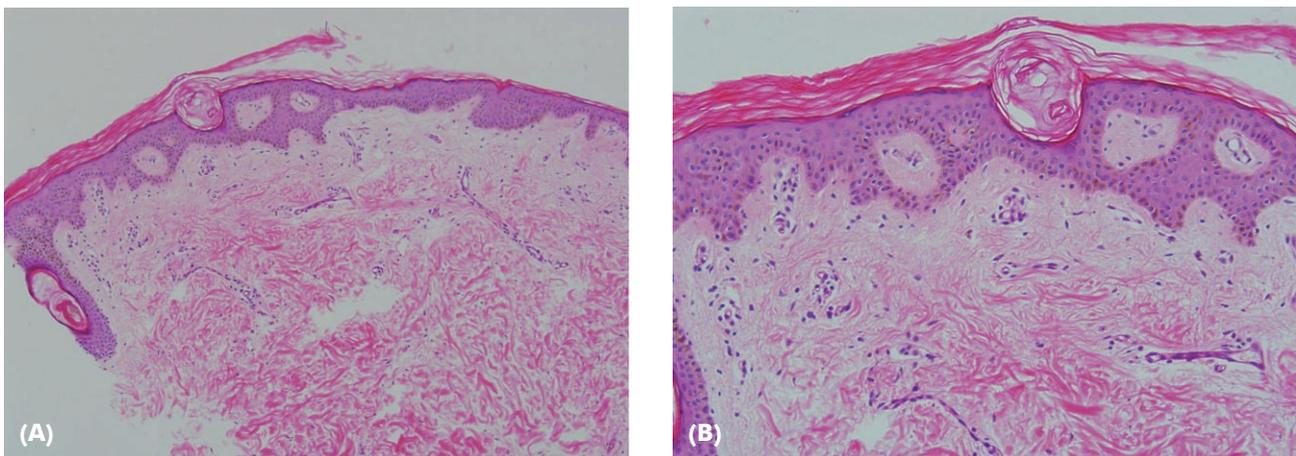


Figure 2. Compact hyperkeratosis, decreased granular layer and mild perivascular lymphocytic infiltration in the superficial dermis (A: H&E, X100, B: H&E, X200).

accompanied by systemic disease in 30% of the patients. Type 2 usually occurs among Caucasians and is characterised by more than 30 hypopigmented lesions. This form is familial and is not accompanied by systemic disease. Grimalt et al classified pityriasis rotunda into three types:³ the first type being accompanied by various systemic diseases, the second type spontaneously occurring in healthy people, and the third type being an autosomal dominant disorder. The patient in our case report has type 1 pityriasis rotunda according to Grimalt's classification based on the number of lesions, pigmentation, and underlying systemic disease.

Diseases that must be differentiated from pityriasis rotunda include ichthyosis vulgaris, pityriasis versicolor, tinea corporis, erythrasma in areas including the intertriginous area, parapsoriasis,

pityriasis rosea, pityriasis alba, and fixed drug eruption.^{1-3,6-9} A KOH test, Wood's lamp skin test, and fungal or bacterial cultures are useful in the differential diagnosis. Medical history evaluation and physical examination are necessary since these lesions may be caused by systemic diseases, such as malignancies.^{2-7,11}

In pityriasis rotunda associated with systemic disease, lesions may disappear as the underlying disease improves. In most cases, however, pityriasis rotunda persists even after treatment; the outcome is rarely satisfactory.⁶⁻¹¹ While topical steroids are primarily used, their efficacy is unclear.⁸⁻¹⁰ Our patient showed some improvement after four weeks of topical steroids and humectants.

Twenty cases of pityriasis rotunda have been reported in Korea (Table 1). In nine of these cases,

Table 1. Summary of reported cases of pityriasis rotunda in Korea

No.	Age/Sex	Duration	Combined disease	Course
1	17/M	–	Family history	–
2	45/F	20 years	No family history	Improved with topical steroid
3	74/F	30 years	No family history	–
4	27/F	5 days	No family history	Cleared with topical steroid
5	23/M	8 years	None	Improved with topical steroid
6	31/M	1 year	None	Improved with topical steroid
7	24/F	2 years	None	Cleared with topical steroid
8	47/M	2 years	Tuberculous meningitis	Improved with Tb. treatment
9	50/M	2 years	Tuberculous pleurisy	Improved with Tb. treatment
10	66/M	3 months	Liver cirrhosis	Expired
11	43/F	Several months	Liver cirrhosis	Lost to follow up
12	56/F	2 years	Liver cirrhosis	Not improved
13	65/F	3-4 years	Liver cirrhosis	Expired
14	56/M	Several days	Hepatocellular carcinoma	Expired
15	64/F	2 months	Pancreatic cancer	Not improved
16	31/F	20 years	Pregnancy	Lost to follow up
17	15/F	10 months	Nephrotic syndrome pulmonary Tb	Lost to follow up
18	28/M	2 years	None	Not improved
19	38/F	2 months	None	Not improved
Our case	29/F	3 years	Anorexia nervosa with malnutrition	Improving with topical treatment

pityriasis rotunda was accompanied by systemic diseases, including tuberculosis, liver cirrhosis, liver cancer, pancreatic cancer, and nephrotic syndrome. There are no reports of pityriasis rotunda accompanying psychiatric disorders and malnutrition.^{1,7-11}

In conclusion, we report a rare case of pityriasis rotunda accompanying psychiatric disease in a patient who was malnourished due to anorexia nervosa and was on psychotropic medications.

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