



Medical Group

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Case Report

Hyperpigmented Plaques

Question

Based on the patient's history and physical examination as well as response to treatment, which of the following answer(s) is the most likely cause of her cutaneous rash?

- A. Pityriasis rosea
- B. Tinea corporis
- C. Pityriasis (tinea) versicolor
- D. Pityriasis alba

Discussion

The answer is C: Pityriasis (Tinea) versicolor (PV). Pityriasis versicolor is caused by the yeast from the genus *Malassezia*.¹ PV appears as a cutaneous variation in pigmentation;

A 22-year-old female presented to clinic for a routine appointment and was incidentally noted to have multiple nummular patches on her upper extremities bilaterally (Figures 1,2). She reported that the lesions have been present for more than two years and their distribution had spread from her arms to her chest and back. She also reported a new "rash" in her hairline that seemed different from these lesions. The patient reported that the lesions on her arms, chest, and back were mildly pruritic when exposed to sun or ocean water but were otherwise asymptomatic. The rash had been refractory to treatment with lotions and topical antifungal agents. She denied any new medications, or recent bacterial or viral infections. Review of systems was otherwise negative.

A physical examination yielded twenty to thirty 1-3cm annular, uniformly hyperpigmented, slightly raised patches, some coalescing to form larger lesions, along bilateral anterior thighs, and across the upper back and upper abdomen. Scaling annular plaques were also noted within her hairline. Skin scrapings and punch biopsies were taken from one of the lesions on her arm. A KOH preparation of the skin scraping from the arm is shown in figure 3.

Treatment with oral terbinafine was initiated and continued for six weeks. Following treatment, the patient had complete resolution of the scaling, annular plaques in her hairline but no improvement of the findings on her arms, legs, or trunk.

The patient was seen in follow-up and started on oral fluconazole which resulted in complete resolution of all remaining findings within 2 weeks of initiating treatment.



Figure 1:



Figure 2:

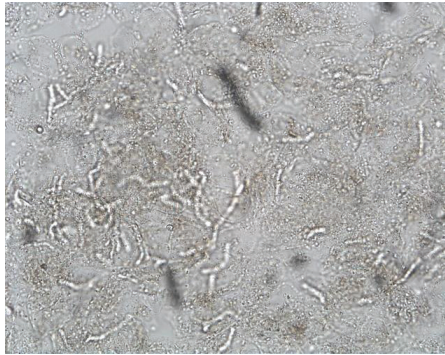


Figure 3:

hyperpigmentation, hypopigmentation or erythema in the shape of macules or patches.¹ In an individual, lesions of PV are typically of uniform color though light and dark lesions can coexist, with the darker lesions appearing in untanned areas [1]. They can occur on the trunk and extremities and are more prevalent in climates with increased humidity [1].

Malassezia normally colonize the skin in humans, are highly lipophilic and appear to result in clinical disease when host and environmental factors permit, such as change in sebum production, increase in humidity, increased sweat production, as well as familial factors [1,2]. Diagnosis is confirmed by the demonstration of budding yeast and hyphae “spaghetti and meatballs” pattern on potassium hydroxide (KOH) preparation of a scraping of a skin lesion [1]. This was demonstrated in our patient in figure 3. Treatment for PV consists of topical antifungal agents, terbinafine and ketoconazole, or oral antifungals, fluconazole, itraconazole, or ketoconazole, which all result in high cure rates [2]. However oral ketoconazole is no longer recommended for superficial dermatophyte infections by the Food and Drug Administration and has received a black box warning regarding hepatotoxicity with its use [3]. Because it is not secreted in sweat oral terbinafine is ineffective in the treatment of PV, and is likely why this patients non-scalp lesions did not respond to initial therapy [4].

Pityriasis rosea is cutaneous rash precipitated by a viral or bacterial infection or the result of exposure to a medication [5]. It typically starts with a herald patch, of 2 to 10cm in diameter followed by a multiple oval, salmon colored patches 5 to 10mm in diameter, which usually follow Langers line distribution and are negative for hyphal elements on KOH preparation of s skin scraping [5]. If these occur on the back they typically follow a Christmas tree distribution [5]. Treatment consists of

expectant management as 80 percent of patients experience resolution by 8 weeks, and control of pruritus in the 25 percent of patients who experience this symptom [5].

Tinea corporis is a superficial cutaneous infection caused by dermatophytes of the genera *Trichophyton*, *Epidermophyton* or *Microsporum* [6]. It is manifested by single or multiple annular, erythematous patches with an advancing scaling border of 1 to 5cm in diameter [6]. Diagnosis is confirmed by KOH preparation of skin scrapings which reveals hyphal elements [6]. Tinea corporis typically responds to topical antifungal creams, though occasionally systemic antifungals may be required for more severe infections, or in patients who are immunocompromised [6].

Pityriasis alba is an asymptomatic skin condition, occurring in children, resulting in hypopigmented patches with a fine scale of 0.5 to 5 cm in diameter [7]. Lesions occur on the lateral aspect of the extremities and cheeks and are more prominent in the summer [7]. KOH examination of the scale is negative for hyphae [7]. Treatment involves expectant management as this condition typically resolves by adulthood, however it is appropriate to recommend emollients to alleviate dryness, or 1% hydrocortisone for inflammation [7]. The opinions and assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of the Navy, Department of Defense, or the U.S. government.

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