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Oral Mucosal Involvement in Pityriasis Rosea: Descriptive Retrospective Study

Pitriyazis Rozeada Oral Mukoza Tutulumu: Tanımlayıcı Retrospektif Çalışma

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ABSTRACT Objective: Pityriasis rosea (PR) is an acute papulosquamous skin disease where human herpesvirus 6 and 7 are implicated in its etiology. It is believed that oral mucosal involvement can accompany PR and may be significant in determining prognosis and treatment. In this study, we aimed to investigate the oral mucosal lesions that may be seen in children and adults with PR. **Material and Methods:** The records of 70 patients, clinically and/or histopathologically diagnosed with PR and who underwent mucosal examinations, were retrospectively reviewed. Data such as patients' age, gender, lesion localization, morphology, mucosal involvement, presence of medallion, itching, duration of complaints, prior upper respiratory tract infection, or presence of prodromal symptoms were recorded. **Results:** While no findings were observed in the oral mucosa in 75.7% (n=53) of the patients, mucosal findings were present in 24.3% (19 mucosal findings in 17 patients). The most common mucosal finding was a scrotal tongue (15.7%, n=11). All patients with glossitis (2.9%, n=2) also had a scrotal tongue. Erosive papillitis (2.9%, n=2), papillomatous lesion on the tongue, papillary hypertrophy, hyperemia, and hypertrophy in the tonsils, and strawberry tongue were the other oral mucosal findings observed in one patient each (1.4%, n=1). **Conclusion:** In our patients with PR, we observed a scrotal tongue, glossitis, strawberry tongue, eruptive lingual papillitis, papillomatous changes, and hyperemia in the tonsils. In our PR patients, we observed oral mucosal findings in almost a quarter of our patients. We believe that oral mucosal examination should not be neglected because there may be involvement in patients with PR.

Keywords: Mucosa; oral mucosa; pityriasis rosea

ÖZET Amaç: Pitriyazis rozea (PR), etiyolojisinde insan herpesvirüsü 6 ve 7'nin rol oynadığı akut papüloskuamöz bir cilt hastalığıdır. Oral mukozal tutulumun, PR'ye eşlik edebileceği ve prognoz ve tedaviyi belirlemede önemli olabileceği düşünülmektedir. Bu çalışmanın amacı, PR'li çocuklarda ve erişkinlerde görülebilecek oral mukozal lezyonları araştırmaktır. **Gereç ve Yöntemler:** PR tanısı klinik ve/veya histopatolojik olarak konulmuş ve mukozal muayeneleri yapılmış 70 hastanın kayıtları retrospektif olarak incelendi. Hastaların yaşı, cinsiyeti, lezyon lokalizasyonu, morfolojisi, mukozal tutulum, madalyon varlığı, kaşıntı, şikâyetlerin süresi, daha önce üst solunum yolu enfeksiyonu geçirip geçirmediği veya prodromal semptomların varlığı gibi veriler kaydedildi. **Bulgular:** Hastaların %75,7'sinde (n=53) oral mukozada herhangi bir bulgu görülmezken, %24,3'ünde (n=17) oral mukozal bulgular mevcuttu. En sık görülen oral mukozal bulgu skrotal dildi (%15,8, n=11). Glossitli hastaların hepsinde (%2,9, n=2) skrotal dil de vardı. Eroziv papillit (%2,9, n=2), dilde papillomatöz lezyon, papiller hipertrofi, hiperemi ve tonsillerde hipertrofi ve çilek dili, birer (%1,4, n=1) hastada gözlenen diğer oral mukozal bulgulardı. **Sonuç:** PR'li hastalarımızda skrotal dil, glossit, çilek dili, erüptif lingual papillit, papillomatöz değişiklikler ve tonsillerde hiperemi gözlemledik. PR hastalarımızın yaklaşık ¼'ünde oral mukoza bulgularına rastladık. PR'li hastalarda tutulum olabileceğinden oral mukoza muayenesinin ihmal edilmemesi gerektiğini düşünüyoruz.

Anahtar Kelimeler: Mukoza; oral mukoza; pitriyazis rozea

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Pityriasis rosea (PR) is a self-limiting, acute, papulosquamous skin disease frequently affecting the trunk and extremities, especially common between the ages of 10-35.[1-3] Human herpesvirus 6 and 7 are implicated in its etiology.

It is characterized by erythematous papulosquamous rashes, usually on the trunk and extremities, and collar-like scales parallel to skin cleavages.[4,5] The exanthem typically starts with a single, oval, erythematous scaly plaque called the medallion and is followed by numerous smaller similar lesions after approximately 2 weeks.[6]

In typical cases where the lesions develop in this sequence, diagnosis is easy.[4,6,7] Atypical variants, which comprise around 20%, can be harder to diagnose, as they may differ in morphology, count, size, distribution, and location.[3,4]

Oral lesions can be considered as atypical features.[2,5] Particularly oropharyngeal lesions can accompany PR lesions. These lesions, in one study, were described as punctate hemorrhages, erosions or ulcerations, erythematous macules, plaques, or annular lesions.[8] There are a limited number of studies, some of which date back to very old years, investigating oral mucosal involvement in PR.[7-14] In this study, we aimed to investigate oral mucosal lesions in PR.

MATERIAL AND METHODS

In this study, we retrospectively reviewed the records of the patients who presented to our dermatology clinic, were clinically and/or histopathologically diagnosed with PR, whose records were accessible, and who had undergone mucosal examinations. Data such as patients' age, gender, lesion location, morphology, oral mucosa and other mucosa (ocular and genital) involvement, nail involvement, presence of medallion, itching, duration of complaints, and the presence of upper respiratory tract infections (URTIs) or prodromal symptoms prior to the onset and presence of systemic disease were recorded. Patients with and without oral mucosal involvement were compared in terms of age, gender, duration of complaint, presence of URTI, presence of itching, presence of burning sensation, presence of medallion, age group (child and adult) and presence of systemic disease.

This study was conducted in accordance with the Helsinki Declaration and received approval from Ankara City Hospital No. 1 Clinical Research Ethics Committee (date: January 26, 2022; no: E1-22-2349).

STATISTICS

Data were analyzed using SPSS/IBM for Windows 23.0 (Chicago, IL, USA). Descriptive statistics such as percentage, ratio, median, and interquartile range were used to describe the sample. Chi-square significance test or Fisher's exact test was used to evaluate the difference between 2 groups, with a 95% significance level (α=0.05 margin of error) employed for the analyses.

RESULTS

A total of 70 patients who were followed up with a diagnosis of PR and whose data were accessible were included in the study. The clinical and demographic characteristics of the patients are presented in Table 1.

We detected 19 oral mucosal findings in 17 (24.3%) patients. Of the patients with oral mucosal involvement, 11 were female, 16 were adults and one was a child. The most common mucosal finding was a scrotal tongue, observed in 15.7% (n=11) of patients. All patients with glossitis (2.9%, n=2) also had a scrotal tongue concurrently. Erosive papillitis (2.9%, n=2), papillomatous lesions on the tongue, papilla hypertrophy, tonsillar hyperemia and hypertrophy, and strawberry tongue were other oral mucosal findings observed in one (1.4%, n=1) patient each (Table 2). We observed only one mucosal lesion in 1 of 7 pediatric patients (14.3%, tonsillar hyperemia). No involvement was observed in other mucosal regions (ocular mucosa and genital mucosa). Nails of the hands and feet were normal.

One patient was 32 weeks pregnant and had no oral mucosal involvement. In one patient with recurrent PR and another who developed PR after a hepatitis vaccine (each 1.4%, n=1), there was again no mucosal involvement. Oral mucosal involvement was observed in 1 (1.4%) patient with purpuric PR.

Patients with and without oral mucosal involvement were similar in terms of age (p=0.54), gender

TABLE 1: General clinical, demographic characteristics of all patients

Characteristics	Total patient n=70 (100%)
Gender	
Female	46 (65.7%)
Male	24 (34.3%)
Age*years (21-41)	28
Pediatric	7 (10%)
Adult	63 (90%)
Duration of the disease, n, (%)	
1-5 days	6 (8.6%)
5-10 days	13 (18.6%)
10-15 days	23 (32.9%)
15-30 days	20 (28.6%)
More than 1 month	4 (5.7%)
More than 3 month	4 (5.7%)
Morphology	
Makulopapular	69 (98.6%)
Purpuric	1 (1.4%)
Involved sites	
Trunk	32 (45.7%)
Trunk and extremities	25 (35.7%)
Extremities	6 (8.6%)
Face, neck and trunk	3 (4.3%)
Low extremities	3 (4.3%)
Upper extremities and trunk	1 (1.4%)
Medallion	
Yes	67 (95.7%)
No	3 (4.3%)
Single	62 (88.6%)
Multiple	5 (7.1%)
Family history	
Yes	1 (1.4%)
No	69 (98.6%)
Itching	20 (28.6%)
Burning	4 (5.7%)
Upper respiratory tract infection history	4 (5.7%)

*Median (interquartile range)

(p=0.92), duration of complaint (p=0.39), presence of URTI (p=0.86), presence of itching (p=0.19), presence of burning sensation (p=0.22), presence of medallion (p=0.32), age group (child and adult, p=0.51), and presence of systemic disease (p=0.36).

In 42.9% of pediatric patients, there was a history of URTI before PR, while URTI was present in only 5% of adult patients. The presence of URTI was significantly more common in the pediatric age group (p=0.042). The presence of multiple medallions was observed in 28.6% of pediatric patients and in 4.8% of adult patients (p=0.077). Similarly, itching was present in 57.1% of pediatric patients and in 24.2% of adults (p=0.085).

TABLE 2: Oral mucosa lesions in the patients

Present	n (%)
Scrotal tongue*	11 (15.7)*
Glossitis*	2 (2.9)*
Erosive lingual papillitis	2 (2.9)
Papillamatous lesion	1 (1.4)
Hypertrophy of papillae	1 (1.4)
Strawberry tongue	1 (1.4)
Hypertrophy and hyperemia in the tonsils	1 (1.4)
Total	19 (27)

*Two patients had both scrotal tongue and glossitis

DISCUSSION

In our study, we detected 19 oral mucosal findings in 17 (24.3%) patients. Of the patients with oral mucosal involvement, 11 were female, 16 were adults and one was a child. The most common mucosal finding was a scrotal tongue (15.7%, n=11). Glossitis, erosive papillitis, papillomatous lesions on the tongue, papilla hypertrophy, tonsillar hyperemia and hypertrophy, and strawberry tongue were other oral mucosal findings. Tonsillar hyperemia and strawberry tongue were the findings reported in the literature.[16]

Oral mucosal involvement in PR has been reported at a rate of 28% by Ciccarese et al.[7] In one study, painless ulcerations in the oral mucosa were found in 4.7% of patients with PR, but it was mentioned that they can be overlooked since they are mostly asymptomatic.[15] It is believed to be more common than reported in literature.[16] Guequierre and Wright first described annular erythematous lesions on the buccal mucosa of a young woman with PR.[17] There can be several different enanthem patterns that can last parallel to the normal eruption course or continue for a few days after, often associated with atypical forms.[6]

The lesions reported in the literature most commonly include oral erosions and ulcerations, punctate hemorrhages, erythematous annular lesions, papules, and plaques.[7] Petechiae, vesicles and strawberry tongue were also frequently reported. Tonsillar ery-

thema and white annular plaques can also occasionally be seen. Strawberry tongue has been reported at 9%.[5] We observed strawberry tongue and tonsillar erythema at a rate of 1.4% (1 patient from each). Ulcers seen in the buccal mucosa or soft palate with a red margin can be painful or asymptomatic.[16] Although Sciubba stated that oral ulcers are not specific to PR and are typical aphthous ulcers, some authors believe that the lesions are due to PR because they appear and heal simultaneously with PR lesions.[16,19] Another study reported a patient with herpetiform ulcers on the soft palate and buccal mucosa and a case of recurrent PR with oral aphthous lesions.[16,18]

Jacyk proposed that oral mucosal involvement is more common than reported and observed 2 types of mucosal changes; punctate hemorrhages and elevated macules showing superficial erosions. According to him oral lesions in PR appear more common in Africans.[9]

Oral lesions are most commonly seen in the buccal mucosa (63%), palate (46%), tongue (15%), and lips (11%).[5] We also detected oral lesions mostly in the tongue.

Ciccarese et al. observed papular and plaque-like lesions, as well as petechial lesions, in the oral mucosa, palate, and pharynx of 149 out of 527 (28.3%) patients. Petechial lesions, which can be seen in viral and bacterial infections and specifically arise due to arboviruses, are most commonly observed in persistent and pediatric PR, macules and papules in recurrent PR, erythematous vesicles in PR during pregnancy, and strawberry tongue is frequently observed in pediatric PR.[7] Previously reported mucosal involvement in dark-skinned individuals was 9% and 16% in whites. It's most commonly reported in persistent PR (75%) and least in classic PR (17%).[7,9,20] In this study, systemic findings were more severe in patients with oropharyngeal lesions, and enanthems were not associated with human herpesvirus 6 and/or human herpesvirus 7 plasma viremia or viral load. It has been thought that the presence of mucosal lesions in patients with PR may indicate an atypical course and conditions that require intensive systemic treatment.[7] In their comprehensive study dominated by male patients, Cyntia et al. observed more atypical forms (49%) and, like Saravanan et al., mentioned they did not encounter any mucous membrane and nail involvement.[21,22]

Oral lesions are more common in children. Drago et al. reported this rate as 35%.[13] It's noted that they were less observed in those without medallions, vesicular lesions were the most common, but macules, papules, and strawberry tongue could also be seen.[5] We observed only 1 mucosal lesion in 1 of 7 pediatric patients (14.3%, tonsillar hyperemia). Oral mucosal involvement was less and different compared to adults. We can attribute this low rate to the low number of pediatric patients.

The presence of a medallion was similar in children and adults, but multiple medallions were more frequent in the pediatric age group. Itching was also twice as common in children. Oral lesions were seen in 1 (14.3%) pediatric patient and 18 (28.6%) adult patients, but the difference was not statistically significant. In PR-like eruptions (50%), oral mucosal involvement is more common compared to classic PR (16%).[6] In one of our cases that developed PR after vaccination, no mucosal involvement was observed.

The presence of enanthems and the onset of lesions before the 15th week of pregnancy in pregnant women with PR has been described as a risk factor for pregnancy complications.[6] Again, in our pregnant patient, we did not encounter mucosal involvement, and she did not have a high-risk pregnancy.

In one study, oral mucosal lesions were observed in 12 out of 138 (8.69%) PR patients, all of whom were under 20 years of age, and 8 were under 10 years old. In this study, although the rate of oral mucosal findings was lower than ours, more oral mucosal findings were observed in children. It was reported that the eruption was severe and generalized in patients with mucosal lesions, affecting the face and neck as well, and 4 patients with vesicular lesions had oral mucosal involvement.[8]

Scrotal tongue is usually asymptomatic, characterized by fissures observed on the dorsal or lateral side of the tongue, and can be seen in 10-20% of the normal population. Its incidence increases with age and is more common in males. Its cause is unknown, and it could be familial. It is more frequent in condi-

tions like psoriasis, pernicious anemia, acromegaly, Sjögren's syndrome, and in patients undergoing radiotherapy/chemotherapy compared to the normal population.[23,24] We detected scrotal tongue in 15.7% of our patients. In fact, this rate is a remarkable rate. However, since it was a retrospective study, the duration of scrotal tongue presence could not be understood. Scrotal tongue has not been reported in patients with PR so far, but geographic tongue has been reported in a patient during the course of PR, and can also be seen in conditions like psoriasis, lichen planus, and atopy.[5] We did not observe geographic tongue in our patients.

The small number of pediatric patients and the lack of detailed access to patient information due to its retrospective nature are limitations of the study.

CONCLUSION

In our PR patients, we observed oral mucosal findings in almost a quarter of our patients. Scrotal tongue was the most frequently observed mucosal finding. Although we did not encounter such a situation in our study, oral mucosal involvement may be important as it may be an indicator of more severe disease. Therefore, we believe that oral mucosa examination should also be performed in patients with PR and that new large series multicenter studies are needed on this subject.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Fadime Kılınç, Ayşe Akbaş, Yıldız Hayran;* ***Design:*** *Fadime Kılınç;* ***Control/Supervision:*** *Fadime Kılınç;* ***Data Collection and/or Processing:*** *Fadime Kılınç, Ayşe Akbaş, Yıldız Hayran, Esranur Ünal;* ***Analysis and/or Interpretation:*** *Fadime Kılınç, Ayşe Akbaş, Yıldız Hayran, Esranur Ünal;* ***Literature Review:*** *Fadime Kılınç;* ***Writing the Article:*** *Fadime Kılınç;* ***Critical Review:*** *Fadime Kılınç, Ayşe Akbaş, Yıldız Hayran, Esranur Ünal;* ***References and Fundings:*** *Fadime Kılınç.*

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