Successful treatment of pityriasis rubra pilaris (type 1) under combination of infliximab and methotrexate

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Summary
Pityriasis rubra pilaris (PRP) is often difficult to treat. A 65-year-old woman presented with a two week history of widespread erythromelalgia and scaling with areas of sparing (nappes claires). She also had follicular hyperkeratoses and palmar fissuring. The clinical picture and histology led to the diagnosis of PRP. She failed to respond to initial therapy which included topical and systemic corticosteroids. She was then treated with intravenous methotrexate (MTX) 15–30 mg weekly. Because of the poor response, methotrexate (MTX) 15–30 mg weekly was administered intravenously. As no improvement occurred, infliximab infusions (5 mg/kg) were administered additionally.

Case report
History
A 65-year-old woman with no history of skin disease presented with progressive cutaneous lesions that had manifested about 14 days previously with rapid spread in a caudal direction. She reported burning and painful itching as well as development of coarse scales. Comorbidities included hypertension, hypothyroidism following thyroidec- tomy and type 2 diabetes treated with oral antidiabetics. There had been no changes in medication recently.

Clinical findings
Then patient appeared chronically ill with widespread erythematous patches especially of the upper body with rough follicular hyperkeratoses. Further, severe scaling, islands of uninvolved skin – “nappes claires” – as well as fissures of the hands were present (Figure 1, 2).

Laboratory diagnostics
Laboratory parameters were in the normal range with exception of a HbA1c of 6.3 % (normal range 4.6–5.9) and a GT von 0.93 ukat/l (normal range for women < 0.65). Differential blood count, rheumatoid factors, desmoglein 1 and 3, complement components C2 and C4, antecardiolipin IgG and IgM antibodies as well as ANAs and ANCAAs were normal.

Histology
In the upper dermis a perivascular lymphocytic inflammatory infiltrate with some cosinophils was observed. At some points the inflammatory cell infiltrate involved the epidermis with vacuolar degeneration of basal keratinoocytes. The al- cian blue stain revealed mucin deposits in the upper dermis. A superficial perivascular and lichenoid lymphocytic dermatitis and folliculitis were diagnosed. Direct immunofluorescence examination was negative.

Therapy and course
Initially we suspected a drug eruption. All drugs were therefore discontinued or changed and topical as well as systemic steroids (up to 60 mg prednisolone equivalent orally) were administered for two weeks. Based on the changing clinical findings, especially the “nappes claires”, and histology, we made the diagnosis of PRP (type 1 – classical adult type). Because of the poor response, methotrexate (MTX) 15–30 mg weekly was administered intravenously. As no improvement occurred, infliximab infusions (5 mg/kg) were administered additionally. Cutaneous lesions then underwent significant, long-lasting regression (Figure 3–6). One week after the second infliximab infusion we were able to discharge the patient.

Discussion
The unclear pathogenesis of PRP has led to a multitude of therapeutic approaches.
For example, immunosuppressive/immunomodulatory systemic treatments with steroids, azathioprine, fumaric acid esters, MTX, retinoids, cyclosporine and others have been employed. Due to the small number of cases (incidence 1/35000–1/50000) therapy is often based on single case reports. Retrospective studies on the use of retinoids [3] and MTX [4] have to be viewed with caution, as spontaneous healing occurs in up to 80 % [5]. Most frequently retinoids are administered [3–6]. As the histological features of PRP resemble those of hypovitaminosis A, vitamin A analogues possibly

<table>
<thead>
<tr>
<th>PRP type</th>
<th>Nomenclature</th>
<th>Frequency</th>
<th>Features and course</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Classic adult type</td>
<td>50 %</td>
<td>Spreads caudally, 80 % heal within 3 years</td>
</tr>
<tr>
<td>2</td>
<td>Atypical adult type</td>
<td>5 %</td>
<td>No caudal spread, keratotic and eczematous lesions especially</td>
</tr>
<tr>
<td>3</td>
<td>Classic juvenile type</td>
<td>10 %</td>
<td>Benign type – healing usually after 1 year, 75 % of cases follow infections</td>
</tr>
<tr>
<td>4</td>
<td>Circumscript juvenile type</td>
<td>25 %</td>
<td>Difficult to differentiate from psoriasis, lesions on elbows and knees</td>
</tr>
<tr>
<td>5</td>
<td>Atypical juvenile type</td>
<td>5 %</td>
<td>Unfavorable prognosis, scleroderma-like lesions</td>
</tr>
</tbody>
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Table 1: PRP types as classified by Griffiths [1].
which has often provided a rapid re-

between psoriasis and PRP motivated us 

Positive experiences in psoriasis as well as 

Even therapy with MTX did not lead to 

Our patient with type 1 PRP initially 

Repeated successful use of a TNF-α in-

Due to the unsatisfactory response of our 

Conflicts of interest 

Regina Treudler received lecture fees 

Correspondence to 

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Figure 5: Appearance at discharge from hospital – one week after second infliximab infusion.

Figure 6: Appearance one year later.

act by correcting the imbalance in vita-

Our patient with type 1 PRP initially 

Even therapy with MTX did not lead to 

We therefore decided on a combination with infliximab.

Positive experiences in psoriasis as well as 

and others to administer infliximab, 

Clinical and histological similarities 

which has often provided a rapid re-

response (8 case reports as of January 2009) [8, 9]). On occasion, this combination has failed [10] or had to be discontinued due to gastrointestinal side effects [11]. In our experience the combination of immunosuppressive/ immunomodu-

ular substances brings advantages with respect to rapid and long-lasting effects. Co-medication with MTX, for example, reduces the risk of infliximab antibodies and higher levels of infliximab are achieved [12, 13], which then leads to greater efficacy [14]. Repeated successful use of a TNF-α in-

hibitor in PRP suggests that TNF-α might play a central role. The significance of immunological factors is underscored by the response to immune-modifying agents. PRP is a challenge because it is so therapy-resistant. If standard measures (emollients, topical steroids) and im-

munosuppressive agents such as systemic corticosteroids and MTX are unsuccess-

ful, combination therapy can be tried. 

Due to the unsatisfactory response of our patient, we selected a combination of infliximab and MTX resulting in a rapid and long-lasting improvement. 

Conflicts of interest

Conflicts of interest exist.

Reference


