Porphyria cutanea tarda and beta-thalassaemia major: Causal or casual?

Article in Journal of the European Academy of Dermatology and Venereology · March 2010

DOI: 10.1111/j.1468-3083.2010.03626.x · Source: PubMed

CITATIONS
0
READS
17

7 authors, including:

Pavlos Papadantonakis
University Hospital of Heraklion

1 PUBLICATION 0 CITATIONS

Aristidis M. Tsatsakis
University of Crete, Heraklion, Greece

512 PUBLICATIONS 5,153 CITATIONS

Sabine Krueger-Krasagakis
University of Crete

28 PUBLICATIONS 480 CITATIONS

Some of the authors of this publication are also working on these related projects:

Phd Thesis View project

Anticancer Prodrug Synthesis and Evaluation Project View project

All content following this page was uploaded by Aristidis M. Tsatsakis on 18 May 2017.

The user has requested enhancement of the downloaded file. All in-text references underlined in blue are added to the original document and are linked to publications on ResearchGate, letting you access and read them immediately.
Porphyria cutanea tarda and beta-thalassaemia major: causal or casual?

Editor

Porphyria cutanea tarda (PCT) is the most common type of porphyria worldwide and is classified in three categories: sporadic type I, familial type II and the extremely rare type III. Many predisposing factors have been associated with the clinical manifestation of PCT. Amongst them well recognized are: alcohol abuse, oestrogen replacement therapy, iron overload, haemodialysis, viral infections (hepatitis C, hepatitis B, HIV virus), exposure to polychlorinated hydrocarbons and inherited mutations in the HFE gene concerning classic haemochromatosis.2–4 Beta thalassaemia major (TM) is a clinical entity with a wide spectrum of clinical manifestations as a result of life-long transfusion-dependent anaemia. Interestingly, patients suffering TM manifest several of PCT’s predisposing factors as a result of their underlying disease such as iron overload, blood-borne infections (e.g. viral hepatitis) or oestrogen replacement therapy because of amenorrhoea.

Herein, we evaluate a potential causal relation between PCT and TM, focusing on PCT’s predisposing factors. We enrolled 18 consecutive female patients with TM between 16 and 48 years old. Ferritin plasma concentrations and serological markers of HCV infection were evaluated. Prior treatment with oestrogen replacement therapy was determined and toxicological tests from hair samples were performed to exclude exposure to polychlorinated hydrocarbons. The diagnosis of PCT was based on typical clinical features and was confirmed by increased urine excretion of uroporphyrin (quantified spectrophotometrically) and skin biopsy.

Clinical characteristics of enrolled patients are summarized in Table 1. Two of the patients presented with bullae, skin fragility, miliae and hypertrichosis of zygomatics on the sun-exposed areas of the body (Fig. 1), while another patient had dermatological lesions compatible with pseudoscleroderma. No specific dermatological manifestations were observed in the remaining 15 patients. Twenty-four hour urine specimens revealed substantially high level of urinary porphyrins in the two patients presenting with dermatological lesions, while a mild elevation was demonstrated in three other patients, one amongst them being with pseudoscleroderma. In the remaining 13 patients the urinary porphyrin excretion profile was normal. The two women with the substantially elevated urinary porphyrin levels had a combination of predisposing factors: they were receiving oestrogen replacement therapy because of amenorrhoea, had markedly elevated plasma ferritin concentration, while one of them was HCV positive. Skin biopsy was performed in these two patients revealing findings compatible with dermatological porphyria: subepidermal bullae with festooning of

### Table 1 Clinical characteristics of enrolled patients

<table>
<thead>
<tr>
<th>Patients</th>
<th>Age</th>
<th>Ferritin (ng/mL)</th>
<th>HCV</th>
<th>Hormonal replacement therapy</th>
<th>Urinary porphyrin (µg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>34</td>
<td>902</td>
<td>+</td>
<td>+</td>
<td>7300</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>540</td>
<td>+</td>
<td></td>
<td>1185</td>
</tr>
<tr>
<td>3</td>
<td>34</td>
<td>654</td>
<td></td>
<td></td>
<td>230</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>4531</td>
<td>+</td>
<td></td>
<td>203</td>
</tr>
<tr>
<td>5</td>
<td>16</td>
<td>165</td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>6</td>
<td>38</td>
<td>3310</td>
<td>+</td>
<td></td>
<td>142</td>
</tr>
<tr>
<td>7</td>
<td>19</td>
<td>3410</td>
<td></td>
<td></td>
<td>76</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>1919</td>
<td>+</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>9</td>
<td>21</td>
<td>5022</td>
<td></td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>10</td>
<td>27</td>
<td>264</td>
<td></td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>11</td>
<td>29</td>
<td>357</td>
<td></td>
<td></td>
<td>120</td>
</tr>
<tr>
<td>12</td>
<td>41</td>
<td>293</td>
<td>+</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>13</td>
<td>32</td>
<td>2812</td>
<td>+</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>14</td>
<td>24</td>
<td>164</td>
<td></td>
<td></td>
<td>57</td>
</tr>
<tr>
<td>15</td>
<td>34</td>
<td>255</td>
<td>+</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>16</td>
<td>30</td>
<td>637</td>
<td></td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>17</td>
<td>48</td>
<td>592</td>
<td></td>
<td></td>
<td>33</td>
</tr>
<tr>
<td>18</td>
<td>33</td>
<td>3041</td>
<td>+</td>
<td>+</td>
<td>52</td>
</tr>
</tbody>
</table>
dermal papillae into the bullae and in direct immunofluorescence deposition of IgG immunoglobulins around the blood vessels of the papillary dermis and dermoepidermal junction. Treatment with hydroxychloroquine sulphate was immediately initiated with improvement of the dermatological lesions and reduction in the levels of urinary porphyrins.

According to our results, patients with TM demonstrate an increased prevalence of PCT, in relation to the general population. Indeed, there is an association between the trait of beta-thalassaemia and PCT. A possible explanation of our finding is that in our patient population, coexistence of various concomitant precipitating factors such as iron overload, oestrogen replacement therapy and HCV infection, seems to facilitate cumulatively the manifestation of PCT. However, emerging data have demonstrated that only a small percentage of individuals genetically predisposed to PCT or exposed to precipitating factors are amenable to manifesting the disease. It is postulated that a more complex triggering mechanism facilitates the appearance of PCT and that the combination of more predisposing factors is crucial in the pathogenesis of PCT. Nonetheless, patients with TM and even slightly elevated urinary porphyrins should remain under medical observation, as they seem susceptible to future development of PCT. Therefore, larger cohorts are required to clarify the association between these two clinical entities as well as the exact pathogenetical mechanism that connects them.

Granulomatous variant of chronic pigmented purpuric dermatosis associated with hyperlipidaemia

Editor

Pigmented purpuric dermatosis (PPD) is a group of dermatoses characterized by petechiae, pigmentation and occasionally telangiectasia in the absence of associated venous insufficiency or haematological disorders. These benign, generally asymptomatic eruptions tend to be chronic with remissions and flares. They share common histopathological features including perivascular lymphocytic inflammation, erythrocyte extravasation and hemosiderin deposition. In 1996, Saito and Matsuoka reported a granulomatous variant of pigmented purpuric dermatosis that demonstrates granulomatous inflammation superimposed on the pathological changes of PPD. Since then, eight cases of granulomatous variant of PPD have been reported in the English literature. Amongst the eight cases, five cases were associated with hyperlipidaemia. These reports suggest an association between granulomatous variant of PPD and hyperlipidaemia. We report an additional case of granulomatous variant of PPD associated with hyperlipidaemia.

A 48-year-old woman presented with a 7-year history of asymptomatic erythematous to purpuric papules on both lower legs and dorsum of feet (Fig. 1). She has no other medical history of any diseases except being obese. On laboratory examination, ANA, RF and anti-HBs Ag and anti-HCV antibodies were all negative. However, blood chemistry results revealed hyperlipidaemia (Triglyceride 614 mg/dL and total cholesterol 239 mg/dL). Skin biopsy

References


DOI: 10.1111/j.1468-3083.2010.03626.x

P Papadantonakis,1,*, O Neofotistou,‡ A Vasilidi,‡ A Skoutelis,§ A Tsatsakis,⁎ A Tosca,† S Krüger-Krasagakis¹
¹Dermatology Department, University General Hospital of Heraklion, Crete
‡Thalassemia Unit, General Hospital of Chania, Crete
§Laboratory of porphyrias, Evangelismos General Hospital, Athens
⁎Department of Forensic Sciences & Toxicology, Medical School, University of Crete, Heraklion, Greece
*Correspondence: Dr P Papadantonakis.
E-mail: pavlos72cha@yahoo.gr

Figure 1 Patient with hypertrichosis of zygomatics, hyperpigmentation, scars and bullae of the face and hands.