



**WOOD'S LAMP EXAMINATION: A SIMPLE AND QUICK BEDSIDE TEST FOR  
DIAGNOSING PORPHYRIA CUTANEA TARDA.**

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Sir,

Porphyrias are metabolic disorders of the heme biosynthesis. Porphyria cutanea tarda (PCT) is the most frequent porphyria and is caused due to deficiency of enzyme uroporphyrinogen decarboxylase (UROD).<sup>[1]</sup> The liver damage is fundamental to the pathogenesis and can be triggered by drugs, iron overload, alcohol abuse, hepatitis viruses, exposure to agricultural pesticides and viral infections.<sup>[2, 3]</sup>

A 30 years old, chronic alcoholic male presented with complaints of repeated painful blistering on the dorsal aspect of hands and face for last two years. There was history of episodes of high coloured urine. There is history of darkening, thickening and tightening of skin over exposed parts like hands and feet. There was no history of any hepatotoxic drug intake apart from alcohol. He didn't give any history of upper abdominal pain, yellowish discoloration of eyes or any episode of vomiting of blood. Cutaneous examination revealed multiple, bilaterally symmetrical, both hypo and hyperpigmented atrophic scars, crusted lesions and erosions on the dorsal aspect of hands, face and dorsal feet with a few intact bullae as well (Figure 1 a, b, c). Hypertrichosis on temples, forehead and pinnae were also noticed. Liver function test, hepatitis-B and C screening, and screening for HIV infection were negative. Ultrasonography of the abdomen was normal. Urine examination revealed a dark brown colour (Figure 1d). Wood's lamp examination of the urine did not reveal the typical fluorescence (Figure 2 a). However, the pink fluorescence was clearly marked as a ring on top of urine sample (Figure 2 b) when tested in following manner.<sup>[4]</sup> (a) To 5 ml of fresh urine sample 1 ml glacial acetic acid, 5 ml ethyl ether and 3 drops of fresh 3% hydrogen peroxide were added in sequence. (b) Test tube was closed with rubber stopper, inverted 12 times and allowed to stand for 10 minutes followed by the examination under Woods lamp revealing a band of orange-pink fluorescence. Further, we could also demonstrate orange pink fluorescence on palms, dorsum of feet, one nail and vermilion border of lips (Figure 2 c, d, e, f). The diagnosis of PCT was confirmed by increase in urinary uroporphyrins.

Porphyrins are fluorescent chemicals. They can be demonstrated in urine, serum and also in tissues like skin, nails, teeth etc. In PCT the accumulated porphyrin in plasma and urine are mostly uroporphyrin (octacarboxylporphyrin) and heptacarboxylporphyrin. Predominance of fecal isocoporphyrins is quite specific, but seldom measured besides in renal failure where it may be essential. PCT is best screened with total plasma porphyrin. UROD measurement may be done in erythrocytes to confirm inherited deficiencies but is rarely needed. A plasma spectrofluorimetry peak of 615–620 nm is also distinctive.<sup>[5]</sup>

#### Figure Legends

##### Figure 1:

(a,b) Hypo and hyperpigmented atrophic scars, crusted lesions and erosions on face (a) and dorsal aspects of hand (b)

(c) Intact bullae on the dorsum of feet

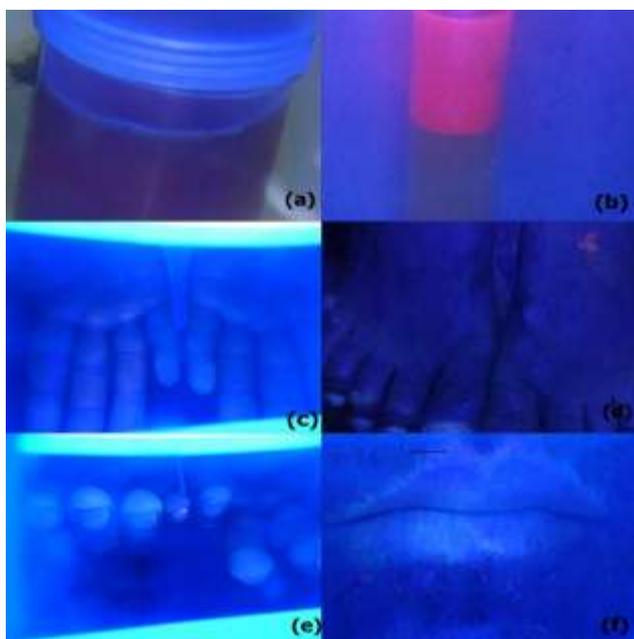
(d): Fresh urine sample- dark brown colour.

##### Figure 2: Under wood's lamp examination

(a) Dark brown colour of urine with minimal fluorescence

(b) Orange- Pink fluorescence of urine after procedure as stated in text.

Few spots of Pink fluorescence on palm (c), dorsum on foot (d), on nail (e) and on vermilion border of lips (f)



Wood's lamp examination is a simple bedside test to look for fluorescence. It is commonly used in the diagnosis of fungal infections, erythrasma, pigmentary disorders etc. The pink colour on Wood's lamp examination is characteristic of porphyrias. The fluorescence of urine may not be discernible without this procedure and patient may erroneously be labelled negative. Here we have reproduced an old, often forgotten, simple bedside method to demonstrate the porphyrins in the urine sample. We also report the infrequently encountered fluorescence of skin and nails also in a case of PCT.

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