

SHORT REPORTS

Excretion of 5-S-Cysteinyldopa
in Humans with Genetically Dark SkinG. Agrup, C. Hansson, F. Juldorf, H. Rorsman,
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Abstract. Urinary excretion of 5-S-cysteinyldopa was investigated in 12 genetically dark-skinned men living in Sweden. Ten subjects showed excretion values in the same range as persons of Swedish origin, whereas the excretion was higher in 2 subjects.

Key words: Cysteinyldopa; Negro; Pigment

5-S-cysteinyldopa is an intermediate substance in the formation of phaeomelanins (5, 6). This amino acid is present in melanomas in Caucasians of different complexions and also in Africans (3, 11). Furthermore, 5-S-cysteinyldopa is excreted in the urine of all healthy Caucasians, irrespective of hair colour (2). It is present both in red and black guinea-pig skin (9). Thus there is evidence that the occurrence of 5-S-cysteinyldopa is not limited to melanocytes that form phaeomelanins, and it seems to be an amino acid which is always formed where tyrosine activity produces dopaquinone, which compound combines with cysteine or glutathione (4, 7).

So far no study has been published on the excretion of 5-S-cysteinyldopa in individuals with genetically dark skin. We now report the excretion of 5-S-cysteinyldopa in dark humans.

MATERIAL AND METHODS

Twelve foreign students at Lund, all men aged 24-38 years of age, were examined. Their body surfaces were calculated to be between 1.7 and 2.0 m². Skin colours varied from light brown to black. 'Light brown' subjects in this context were much darker than strongly pigmented persons of Swedish origin. No strong exposure to sun had

occurred within 6 weeks before the investigation. All subjects were healthy and not taking any medication.

Urine samples were collected for 24 hours during the months of January and February 1977. The specimens were kept in plastic bottles containing 50 ml acetic acid and 1 g sodium metabisulphite. 5-S-cysteinyldopa was determined fluorimetrically by a previously described method (8).

RESULTS AND COMMENTS

The excretion of 5-S-cysteinyldopa is given in Table I. Two subjects excreted 5-S-cysteinyldopa in amounts greater than those observed in healthy Caucasians without sun exposure. The degree of pigmentation was not correlated to the amounts of 5-S-cysteinyldopa excreted. The highest values were observed in two dark brown subjects. The black and light brown individuals excreted amounts similar to those observed in Caucasians (2).

The subjects studied were eumelanic. Their excretion of the same or even higher amounts of 5-S-cysteinyldopa than red-heads clearly demonstrates that the formation and excretion of this amino acid is in no way limited to individuals with phaeomelanic pigmentation. 5-S-cysteinyldopa must be considered to be a metabolite of normal and pathological pigment-forming melanocytes. Previous studies have shown that exposure to ultraviolet

Table I. Urinary excretion of 5-S-cysteinyldopa ($\mu\text{g}/24\text{ h}$)

Subject	Origin	Colour	5-S-cys- teinyldopa
1	Ethiopia	Black	113
2	Ghana	Black	92
3	Ghana	Black	107
4	USA	Dark brown	110
5	Cameroun	Dark brown	257
6	Ethiopia	Dark brown	1 080
7	Nigeria	Dark brown	439
8	Ethiopia	Dark brown	117
9	Sierra Leone	Dark brown	52
10	Cape Verde Islands	Light brown	64
11	Nigeria	Light brown	254
12	Ethiopia	Light brown	191

light induces excretion of higher amounts of 5-S-cysteinyl-dopa in Caucasians (10). The present investigation demonstrates the need for further analysis of genetic influence on the 5-S-cysteinyl-dopa excretion, and illustrates the importance of 5-S-cysteinyl-dopa as a melanocyte metabolite also in humans born dark.

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A Study of Sézary Cells in Peripheral Blood and Skin Lesions

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Abstract. A patient with Sézary syndrome is presented. By phase contrast and scanning electron microscopy Sézary cells were demonstrated in peripheral blood and in skin tissue. Investigation of atypical mononuclear cells seen in the peripheral blood showed that these cells lack receptors for sheep erythrocytes, C3 and Fcγ. Similarly, an examination of dermal mononuclear cell infiltrates showed that most of the cells lack receptors for sheep erythrocytes, C3 and Fcγ.

Key words: Lymphoma; Sezary cell; Surface Markers

The Sézary syndrome is characterized by exfoliative erythroderma, severe pruritus and atypical mononuclear cells in the peripheral blood, so-called Sézary cells, which were originally considered to be giant histiocytes (5). However, in 1971 Crossen et al. (2), presented evidence for the lymphocytic origin of these cells. The cells are characterized by convoluted cerebriform nuclei, variability in size (large and small variants), and a prominent network of cytoplasmic fibrils (9). Furthermore, it has been shown that the Sézary cell has properties similar to the T-lymphocyte (9, 10).

In the case presented, Sézary cells with unusual mitogenic responsiveness and surface properties are reported.

CASE REPORT

An 81-year-old man was admitted to the Department of Dermatology with generalized eczema. The disease