

SURMA - A TOXIC COSMETIC?

Pages with reference to book, From 281 To 282

Sir,

Surma is a traditional eye cosmetic and eye cure of Indo-Pakistan subcontinent. It may contain lead as an adulterant or accidental impurity^{1,2}. Lead from Surma absorbed through eyes may cause toxicity. Twenty different surma samples were collected from Faisalabad, Chiniot and Rabwah. These were both in lump and powder form. The areas of collection and names of the sellers were recorded. Surma samples were digested with nitric acid.³

In the second part of the study, the persons who apply surma to their eyes and non-users of about same age group were included. They were divided into three groups — non-users, occasional users and frequent users. Twenty different blood samples (5 ml each) were collected from each of the above three groups. Blood samples were digested as described by Kohner et al⁴.

The sample solutions (after digestion) of both surma and blood samples were colourless and transparent. Lead content from all the samples were determined by atomic absorption spectrophotometer (Varian 1475 ABD).

All the twenty surma samples contained lead in varying proportions ranging from 33.6% to 88.99%. Samples in lump form contained maximum lead percentage as shown in the table.

TABLE. Lead Contents of Different 'Surma' Samples.

Samples No.	Area of Collection	Lead (Pb) Percentage
1	Brought by a Haji from Saudi Arabia	88.99
2	Jhang Bazar, Faisalabad	84.50
3	Jhang Bazar, Faisalabad	81.88
4	Bhawana Bazar, Faisalabad	81.44
5	Muslim Bazar, Chiniot	79.64
6	Bhawana Bazar, Faisalabad	79.64
7	Railbazar, Faisalabad	79.27
8	Jhang Bazar, Faisalabad	78.79
9	Bhawana Bazar, Faisalabad	78.52
10	Shahi Mandi, Chiniot	78.52
11	"Surma Hamdard Chashm" 8 pts. Nasir Dawakhana, Rabwah	75.15
12	"Surma Mudabbir" Shafakhana	74.78
13	Jhang Bazar, Faisalabad	74.78
14	Muslim Bazar, Chiniot	71.04
15	Jhang Bazar, Faisalabad	69.92
16	Railbazar, Chiniot	64.68
17	Jhang Bazar, Faisalabad	21.31
18	Mobile Seller	7.85
19	Mobile Seller	5.98
20	"Lateef Surma" Jhang Bazar, Faisalabad	3.73
21	Jhang Bazar, Faisalabad	3.36

All the non-users had blood lead concentration within the safe limit (below 0.4 ppm). None of the persons from casual users and frequent users had blood lead concentration within the toxic range (above 1.2 ppm). There were 15% persons from casual users and 85% from frequent users who had concentrations between 0.6 to 0.8 ppm, and this concentration, may cause mild toxicity.⁵ It was concluded that use of surma may cause mild toxicity.

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