

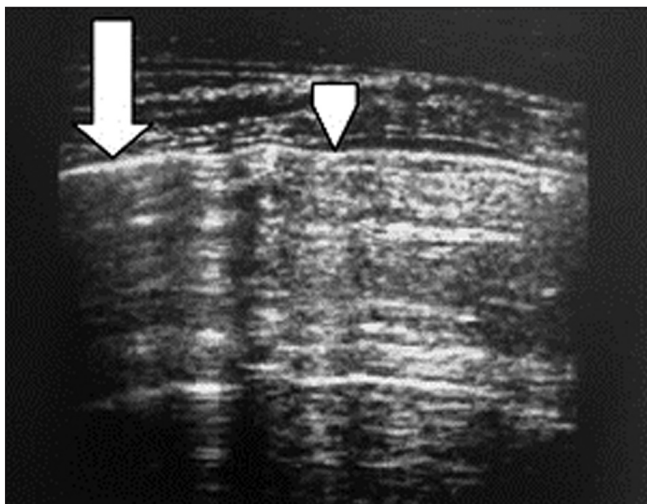
## Pneumothorax in hair dye poisoning: An unrecognized danger

Sir,

Hair dye (Super-Vasmol) poisoning causes cervicofacial edema, laryngeal edema, rhabdomyolysis, acute renal failure, severe acidosis, and rarely bronchospasm and pulmonary edema,<sup>[1,2]</sup> but pneumothorax was not documented earlier. We report two cases of right sided pneumothorax in hair dye poisoning on admission along with probable mechanisms, in order to create awareness and recognition of this entity among practitioners for better patient care.

Young, tall, unmarried females aged 20 and 18 years were brought with alleged history of consuming 200 and 150 ml of hair dye on different days, respectively. Both had cervicofacial edema, difficulty in breathing, hoarseness of voice, and inspiratory stridor. They were not in menstrual periods and were without positive clinical history. Physical examination revealed alert and acyanotic status with tachypnoea, tachycardia, and hypotension. There was an audible inspiratory stridor with drooling of saliva.

Both had hyper-resonant right hemithorax with decreased air entry. Rest of the physical examination was unremarkable. Dyspnoea increased over the next few minutes. Direct laryngoscopy showed bizarre anatomy with almost totally occluded laryngeal inlet due to supraglottic edema with viscous crusts. They were mechanically ventilated. Bedside lung sonography with 10-5 MHz linear transducer was suggestive of pneumothorax [Figure 1] on right side, which was



**Figure 1:** Alternating pattern of absent lung sliding with normal lung sliding

confirmed by chest X-ray.

Tube thoracostomy was done for both, as they were on positive-pressure ventilation. The tube was removed on the third day, as the air leak stopped. Post procedure radiography demonstrated complete re-expansion of the right lung. Contrast swallow ruled out esophageal rupture, and thoracic CT scan did not reveal emphysematous change or bullous disease in the expanded nonatelectatic lung parenchyma in these cases. They were discharged on day seven and were asymptomatic during follow-up.

Oral ingestion of hair dye produces severe airway compromise as a result of direct trauma to the tissues by chemicals and causes dyspnoea and asphyxia<sup>[3]</sup> which frequently warrants an emergency airway intervention as noticed in our cases.

In the absence of significant lung disease and/or bullae on the CT scan of these patients, it is likely that alveolar rupture may be secondary to trapping of large volume of air possibly due to intense inspiratory effort secondary to laryngeal edema which might have contributed to over-distension of the alveoli, and interstitial pulmonary air leak in these two cases, rather than rupture of bullae. The development of pneumothorax following laryngeal edema due to insect sting anaphylaxis was reported<sup>[4]</sup> earlier.

In an autopsy series of eight cases of hair dye poisoning, we noticed pneumothorax in two without any other demonstrable pathology. In view of clinical observations and autopsy evidences of pneumothorax in hair dye poisoning, physicians treating such cases may consider the possibility of pneumothorax if patient has respiratory distress, as timely intervention saves lives.

The diagnosis of spontaneous pneumothorax may also be made at the bedside with lung sonography by identifying “lung point” which has greater sensitivity and specificity than supine chest radiography.<sup>[5]</sup> The strength of this report is that pneumothorax was considered clinically identified by sonography at bedside and confirmed by radiography, and other causes for pneumothorax were ruled out by thoracic CT.

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**Subramanian Senthilkumaran, J. Ram<sup>1</sup>,  
Ritesh G. Menezes<sup>2</sup>, Shah Sweni<sup>3</sup>,  
Ponniiah Thirumalaikolundusubramanian<sup>3</sup>**

*Departments of Accident, Emergency and Critical Care  
Medicine, <sup>1</sup>Pulmonology, Sri Gokulam Hospitals and Research  
Institute, Salem, Tamil Nadu, <sup>2</sup>Department of Forensic Medicine  
and Toxicology, Kasturba Medical College, Mangalore, and  
<sup>3</sup>Department of Internal Medicine, Chennai Medical College and  
Research Center, Irungalur, Trichy, India  
E-mail: maniansenthil@yahoo.co.in*

## REFERENCES

1. Sampathkumar K, Yesudas S. Hair dye poisoning and the developing world. *J Emerg Trauma Shock* 2009;2:129-31.
2. Chrispal A, Begum A, Ramya I, Zachariah A. Hair dye poisoning-an emerging problem in the tropics: An experience from a tertiary care hospital in South India. *Trop Doct* 2010;40:100-3.
3. Verma R, Tewari N, Jaiswal S, Rastogi V, Singh DK, Tiwari A. Fatal poisoning caused by oral ingestion of hair dye. *Internet J Emerg Intensive Care Med* 2008; 11. Available from: [http://www.ispub.com/journal/the\\_internet\\_journal\\_of\\_emergency\\_and\\_intensive\\_care\\_medicine/volume\\_11\\_number\\_1\\_2/article/fatal\\_poisoning\\_caused\\_by\\_oral\\_ingestion\\_of\\_a\\_hair\\_dye.html](http://www.ispub.com/journal/the_internet_journal_of_emergency_and_intensive_care_medicine/volume_11_number_1_2/article/fatal_poisoning_caused_by_oral_ingestion_of_a_hair_dye.html). [Last accessed on 2010 Nov 05].
4. Giltay EJ, Berendsen HH. Pneumothorax following insect sting anaphylaxis. *Allergy* 2002;57:270-1.
5. Lichtenstein D, Meziere G, Biderman P, Gepner A. The "lung point": An ultrasound sign specific to pneumothorax. *Intensive Care Med* 2000;26:1434-40.

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