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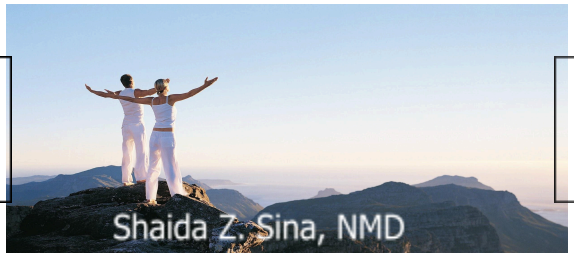

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4-12-25

Patient Information:

- **Name:** Ethan Richards
- **Date of Birth:** 8/10/2014

Introduction: I am a family medicine provider with over 20 years years of experience in Environmental Medicine. Ethan Richards became my patient in 2019 health well child check. In 2022 his mother contacted me with a change in health. He presented with Asthma and an unusual skin rash following his exposure to copper ore slag dust while playing organized group sports at the Cottonwood Kid's Park, very near to an industrial slag crushing operation.

Medical History and Findings: Ethan presented with respiratory symptoms, including coughing and wheezing, and dermatological issues characterized by a rash on the abdomen. These symptoms developed coinciding with his activities on the playground near the slag crushing facility. Notably, the abdominal rash evolved into a persistent brown spot with altered skin texture, which remains many years later. I reviewed pictures of the rash with Dr. Ann Marie Finn the Co-Founder, Director and Educator for Environmental Medicine Education International. She stated that this child presents with classic arsenic rash.

Arsenic is absorbed via inhalation, ingestion, and skin contact. Children have a greater capacity for absorption of arsenic. Also children have a lower methylation capacity early in life,

meaning arsenic mean excretion is lower. The consequences of longer term low level exposure to arsenic has been well studied. According to the text book of Clinical Environmental Medicine written by Dr. Walter Crinnion and Dr. Joseph Pizzorno. Table: Summary of Low-Level Arsenic Health Effects: include: Cardiovascular disease (including stroke, myocardial infarction, hypertension) Blood Sugar issue (diabetes, hyperglycemia), Respiratory Issues (**COPD and upper and lower respiratory problems), Cancer** (prostate, lung, liver and skin) ,Neurologic (diminished cognition, and neurologic function). Ethan's exposure was limited; however, my concern is children who continue to be exposed and people who are vulnerable like the elderly or those with comorbidities.

Diagnostic Assessments:

- **Respiratory Evaluation:** Findings consistent with reactive airway disease suggestive of environmentally induced asthma.
- **Dermatological Assessment:** Chronic post-inflammatory hyperpigmentation with textural changes at the site of the initial rash.

Causation Analysis: Based on the temporal relationship between Ethan's symptom onset and his exposure to airborne particulates from the nearby slag crushing operation, it is my medical opinion that his respiratory and dermatological conditions were more likely than not caused or exacerbated by this environmental exposure to copper slag dust. Studies have documented that inhalation of copper slag particulate matter can induce respiratory issues. Skin contact with such abrasive materials can lead to persistent dermatological conditions especially when those abrasive materials contain high levels of arsenic. XRF studies of Kids Parks showed significant surface levels of Arsenic.

Conclusion: In light of the clinical findings and the environmental exposure history, it is my professional opinion, with a reasonable degree of medical certainty, that Ethan Richards health conditions are directly related to his exposure to slag dust. Avoidance for exposure is imperative for children. His skin and lungs will need to be monitored. Arsenic is linked to both skin cancer and lung cancer.

Sincerely,

Shaida Sina NMD

Dr. Shaida Sina