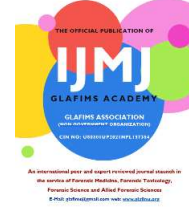


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## Case Report:

### Forensic assessment of burn trauma in an intellectually disabled individual: a case report

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**Abstract:** Intellectual disability is one of the leading ten factors contributing to the global burden of disease, affecting 2-3% of children worldwide. Around 40% of children with intellectual disabilities have a diagnosable mental disorder, which is at least twice the rate compared to children without intellectual disabilities. This case report presents an 18-year-old female with a burn injury of unknown origin along with a history of intellectual disability and symptoms of brief psychotic disorder. This case highlights the need for a multidisciplinary approach to evaluate trauma in vulnerable groups, with a special focus on forensic investigation to figure out what caused the injury and other contributing factors, as establishing the cause in these individuals is challenging. Understanding whether the burns are due to self-harm, maltreatment, or an accident requires a detailed investigation of the surrounding

circumstances, the pattern of the burns, the environment, the intent behind the injuries, and the origin of the burns.

**Keywords:** Intellectual disability, Burn trauma, Forensic assessment.

**Introduction:** Intellectual disability is one of the leading ten factors contributing to the global burden of disease, affecting 2-3% of children worldwide. Around 40% of children with intellectual disabilities have a diagnosable mental disorder [1].

This case report presents an 18-year-old female with a burn injury of unknown origin along with a known history of intellectual disability and symptoms of brief psychotic disorder.

**Case Report:** An 18-year-old female was brought to the emergency department of S. N medical College Agra with an alleged history of thermal burn injury due to unknown cause and was admitted in the burns ward for further management.

She has a known history of mild intellectual disability diagnosed 5 years ago when she was 13 years old. There is no family history of any mental disorders. The fire source was unknown, and the incident took place when she was left alone in the room as per the history given by her parents.

She was then referred to the psychiatry department for the opinion regarding her mental status and for behavioral assessment.

**Result:** On examination burn injuries seen on the front of the chest and abdomen, both upper limbs and some part of back of abdomen comprising 30-35% total body surface area approximately which is estimated based on Wallace rule of nine. It is a dermo-epidermal burn based on burn classification given by Wilson. The affected region shows pinkish area which is suggestive of granulation tissue and dark or brown areas of charred tissue. There is also slight sloughing seen. The presence of granulation tissue is indicative of healing phase & burn age approximately 2 weeks old.<sup>2</sup>

On psychiatric evaluation she was diagnosed with brief psychotic disorder and mild

intellectual disability. According to the informant i.e. parents, she exhibits self-muttering, fearfulness, reduced sleep and appetite, wandering behavior, and inappropriate laughing and crying. She also exhibits irritability, argues with and verbally abuses her siblings and grandmother, and sometimes engages in physical aggression. She is generally withdrawn and hesitant to answer questions. Her judgement is impaired, she also suffers from second person commanding auditory hallucinations and delusions of persecution secondary to these hallucinations.

**Discussion:** Burn injuries in individuals with Intellectual disabilities are complex to assess. Accurate forensic assessment is crucial to differentiate between accidental injuries, self-inflicted harm, and potential abuse or neglect. In this case report exact circumstances leading to burns were unclear, raising concerns about potential neglect or abuse.

Parents of children with intellectual disabilities often feel stressed, anxious, guilty and also may have a sense of failure. Many of them also

struggle with the financial burden of their care.<sup>3</sup> Socio-demographic factors affect parenting quality and can raise abuse risk. These individuals often struggle to report abuse and depend more on caregivers.<sup>4</sup> The alleged Incident needs a comprehensive investigation. It may also be important to conduct additional or follow-up interviews with these children.<sup>5</sup> Individuals with psychotic disorders are at higher risk of self-harming behaviors influenced by hallucinations or delusions.<sup>6</sup> This may be due to poor executive functions. Self-harming often shows difficulty in handling emotional pain and a need for better coping strategies and support.<sup>7</sup> It is crucial to consider whether the burns were a result of self-injury or an accident worsened by her impaired judgement during a psychiatric episode. The limitation of this case report is the patient's reluctance to answer questions and the lack of information regarding the circumstances of the incident, making it difficult to identify the triggers and causative factor responsible for the burn injury.

**Conclusion:** This case highlights the challenges in evaluating burn injuries in individuals with intellectual disabilities and psychiatric symptoms. A thorough investigation and forensic psychiatric assessment are important to determine the etiology of burns in this case. It is essential to consider the social, environmental and psychological factors in understanding and preventing such incidents and provide the necessary care for vulnerable individuals.

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