

A Suicidal Case of Fresh Water Drowning: A Case Report

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How to cite this article:

Richa Choudhary, Pradeep Kumar Yadav, Rishabh Yadav *et al.* A Suicidal Case of Fresh Water Drowning: A Case Report. Indian Journal of Legal Medicine. 2024;5(1):87-91.

Abstract

Introduction: Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid. Drowning is a violent form of asphyxial death and the manner of death may be accidental, suicidal & homicidal. In cases of suicidal drowning medico-legal examination may be very difficult, especially regarding differentiating between suicide, accident or homicide, and natural death. In the present case scenario, we discussed a case of suicidal fresh water drowning with many positive findings suggestive of a suicidal death.

Keywords: Drowning; Fresh Water Drowning; Salt Water Drowning; Asphyxia; Frothy discharge; Washerwoman hand.

INTRODUCTION

Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid. Outcomes are classified as death, morbidity and no morbidity. Drowning is a serious worldwide and preventable injury problem, especially in low and middle-income countries.¹ In 2019, an estimated 236000 people died from drowning, making drowning a major public health problem worldwide. In 2019, injuries accounted for almost 8% of total global mortality. Drowning is the third leading cause of unintentional injury death, accounting for 7% of all injury-related deaths. The Global report on

drowning (2014) shows that age is one of the major risk factors for drowning. This relationship is often associated with a lapse in supervision. Globally, the highest drowning rates are among children 1-4 years, followed by children 5-9 years.¹ World Health Organization (WHO) had adopted the new definition at the first world congress on drowning in 2002 as "Drowning is the process of experiencing respiratory impairment from submersion or immersion in liquid." World Health Organization (WHO) described drowning is one of the top five causes of death in children aged between 1 and 14 years and one of the ten leading causes of death in children and young people aged between 1 and 24 years.² Rate of drowning death is 82 cases per day in India (Accidental deaths and suicidal deaths in India 2013 statistics, National crime records bureau 2014). National Crime Records Bureau (NCRB) data 2014 stated that, out of 316,828 cases of unnatural deaths, 29,903 cases (9.4%) died due to drowning in which 23,166 cases (77.47%) were male, 6736 cases (22.52%) were females and 1 case (0.0033%) was transgender; this was the second most common cause of unnatural death after road traffic accidents (53.4%). Amongst the total number of drowning deaths, near about 11,884

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Received on: 21.06.2024 **Accepted on:** 14.08.2024



cases (39.74%) died due to accidental fall in water, 7426 cases (5.6%) died due to suicidal drowning.²

CASE SUMMARY

An identified dead body of a male, Hindu, 34 years old was brought for a medico-legal autopsy at S.R.N. Hospital Mortuary, Moti Lal Nehru Medical College, Prayagraj. The body was recovered by Police from Ganga River. The deceased was wearing blue shirt and yellow pyjama. All clothes of the deceased were soaked in water and had mud stains. Deceased was thin built (Fig. 1). On

External examination, rigor mortis was developed in whole of the body and post-mortem lividity was more prominent over the back and was fixed. There was oozing of blood and frothy discharge from the mouth and nasal orifice (Fig. 2). Eyes were closed and pupils dilated. Cyanosis was marked in nails of both hands and feet. Washerwoman's hands appearance was marked on hands and feet (Fig. 3). Chest had marked marbling. Internally, all organs and mucosa were congested. Trachea was mud and froth filled. Lungs were congested and oozing of froth was present from cut section of lungs (Fig. 4). Right side of the heart was dilated. Stomach along with intestine was filled with water.



Fig. 1: Body after removing the body bag.



Fig. 2: Blood and frothy discharge from mouth and nasal orifice



Fig. 3: Washerwoman's feet



Fig. 4: Oozing of froth and blood from lungs on cut section

Opinion:

The findings of frothy discharge from the mouth and nose, congestion of the lungs with froth on sectioning, and water-filled stomach and intestines strongly suggest that the deceased died from drowning. The presence of washerwoman's hands indicates prolonged immersion in water. The dilation of the right side of the heart and the overall congestion of internal organs are consistent with asphyxia due to drowning. There is no evidence of external or internal injuries that could suggest an alternate cause of death.

Cause of Death:

The cause of death is asphyxia due to drowning. The findings are consistent with the deceased having been submerged in water, leading to the inhalation of water, respiratory failure, and subsequent death.

DISCUSSION

Deaths due to drowning are generally due to suicide or accidental in nature. Suicide by drowning is not uncommon in India. About 30,000 people drown in India annually and the number could be even bigger than this.³ Hypoxia is the starting point for all morbidity and mortality and it must remain the focus of treatment. Unexpected submersion triggers breath-holding and a struggle to surface. Reflex inspiratory efforts lead to hypoxemia by either laryngospasm or aspiration. The quantity of fluid aspirated, rather than the composition, determines subsequent pulmonary derangement. Aspiration of 1–3 ml/kg body weight of either salt or fresh water compromises the integrity of pulmonary surfactant leading to: alveolar collapse, atelectasis, noncardiogenic pulmonary oedema, intrapulmonary shunting and ventilation-perfusion mismatch (V/Q), resulting in acute respiratory distress syndrome (ARDS).⁴ In the present case, history was suggestive of suicide. In the post mortem examination, no external injury was found and body was not tied. All findings were suggestive of death due to drowning. There was marked cyanosis, froth and blood mixed discharge from mouth and nose, trachea filled with mud, stomach and intestine filled with water while internally all organs were congested and lungs showed oozing of blood and froth from cut section. Despite a number of drowning risk factors being common in India and numerous media sources reporting on drowning

cases, little empirical data are available on the burden or context of drowning-related morbidity or mortality within the country. A better understanding of the context and trends of fatal and non-fatal drowning is required to inform appropriate prevention strategies.⁵ Contrary to the general perception, swimming skills have no role in the prevention of drowning. Rather, public awareness about direct supervision of children in and near water bodies, and restricting their access to water bodies by fencing of ponds, lakes, and rivers, and availability of safety/rescue devices, etc., need to be emphasized.⁶

CONCLUSION

Most of the drowning cases are accidental in nature. Drowning induced acute respiratory failure is frequent condition that can be fatal. Covering wells, using doorway barriers and playpens, fencing swimming pools and otherwise controlling access to water hazards greatly reduces water hazard exposure and risk. Community-based, supervised childcare for pre-school children can reduce drowning risk and has other proven health benefits. Teaching school-age children basic swimming, water safety and safe rescue skills is another approach. But these efforts must be undertaken with an emphasis on safety, and an overall risk management that includes safety-tested curricula, a safe training area, screening and student selection, and student-instructor ratios established for safety.

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