

Indonesian traditional weapons in modern violence: a forensic case series of Three riot victims injured by the ‘sumpit’

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Abstract:

Background: Lawlessness is common among all walks of life: youth, adolescents, and adults. Incidents such as fights between students, murders, and misuse of traditional weapons are common and can lead to injuries or even death. The involvement of ‘sumpit’ (blowgun), one of Indonesia’s traditional weapons that are often used for violent purposes, often causes injuries that are very similar to those caused by modern weapons. This makes it difficult for medical and forensic experts to identify and analyze the cause of these injuries. In this study, we present the cases of three riot victims injured by chopstick throwing, examining the different injury patterns, the challenges faced by forensic teams, and the implications for health care providers and law enforcement. **Case description:** This case series describes three male patients (ages 14, 16, and 19) who presented to the emergency department following a civil riot. All victims sustained penetrating trauma from projectiles launched from a traditional Indonesian *sumpit*. Clinical and forensic analyses revealed small, deep entry wounds mimicking low-velocity gunshot injuries, complicating initial assessment. **Conclusion:** Traditional weapons such as *sumpit* continue to pose a major challenge to medical experts and forensic professionals because the wounds inflicted have two separate but often co-occurring mechanisms: penetrative action and the risk of toxic poisoning. The results of this study highlight the urgent need for greater responsibility on the part of clinical and forensic practitioners, as well as increased public awareness. This study highlights the need for knowledge, preparedness, and ongoing medico legal care for trauma caused by conventional weapons by recording and examining these cases.

Keywords: *sumpit*, forensic, traditional weapon, penetrating trauma, riot injury, toxicology

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INTRODUCTION

Indonesia is a nation rich in culture and tradition, shaped by centuries of knowledge and creativity passed down through generations. Each ethnic group has its own unique customs, languages, and traditional weapons that are still used in daily life or ceremonial practices. These weapons vary widely from the *keris* and *parang* to bows and arrows, and the *sumpit* (blowpipe). While many of these have become important cultural symbols, some are still used in

modern-day conflicts and acts of violence. This creates unique challenges for forensic experts when investigating crimes involving these traditional weapons.¹ Across society, legal violations happen frequently among all groups, youth, teenagers, adults, and even students. Incidents such as student fights, murders, and the misuse of traditional weapons are sadly common, causing harm and sometimes even death.¹ Despite the *sumpit*'s deep cultural and historical roots, its involvement in today's violence is often overlooked and poorly understood in forensic investigations. The injuries caused by the *sumpit* can closely resemble those inflicted by modern weapons, making it difficult for medical and forensic professionals to accurately identify and analyze the wounds. Moreover, limited forensic resources and expertise in some regions of Indonesia make it even more challenging to properly document these cases and handle them within the legal system. In this study, we present the stories of three riot victims injured by the *sumpit*, examining the distinct injury patterns, the difficulties faced by forensic teams, and the implications for healthcare providers and law enforcement. By highlighting these cases, we aim to raise awareness and improve how violence involving traditional weapons is understood and addressed in Indonesia today.

CASE DESCRIPTION

This case series describes several patients aged 14-19 years old males who presented to the emergency department of the Haji Adam Malik Hospital with stab injuries inflicted by a traditional Indonesian weapon called 'sumpit' (blow gun). The main challenge was that an unusual wound morphology was encountered. This highlighted the need for public awareness of the dangers posed by this traditional weapon and the need for ongoing medico legal knowledge, preparedness, and care for the management of the resulting trauma.

Case 1

A 14-year-old boy was brought to the Emergency Department of Haji Adam Malik Hospital, Medan, with a penetrating abdominal injury. According to the patient and his family, he had been accidentally struck by a projectile from a *sumpit*, a traditional blow pipe weapon ring a local territorial conflict. The incident occurred around 01:00 A Mon August 21, 2025. On admission, the patient was alert, cooperative, and hemodynamically stable. Physical

Examination revealed a penetrating wound on the right side of the abdomen with the *sumpit* arrow still in situ. There were no immediate signs of shock or peritonitis at the presentation (**Figure 1**).

An abdominal X-ray was performed in three views, which demonstrated metallic-density foreign body corresponding to the *sumpit* arrow lodged in the mid-right abdominal cavity. Based on the clinical findings and imaging results, the surgical team recommended an urgent exploratory laparotomy to assess and manage potential intra-abdominal injuries (**Figure 2**) showing a metallic *sumpit* arrow in the right abdomen.

The family was counselled extensively regarding the risks of retaining the foreign object and the potential for life-threatening complications if definitive surgical treatment was delayed. Despite this, due to administrative and financial concerns, the family declined surgical intervention and requested discharge against medical advice. The patient was subsequently discharged with the *sumpit* arrows still embedded in the right abdominal region.



Figure 1. *Sumpit* lodged in the right abdomen

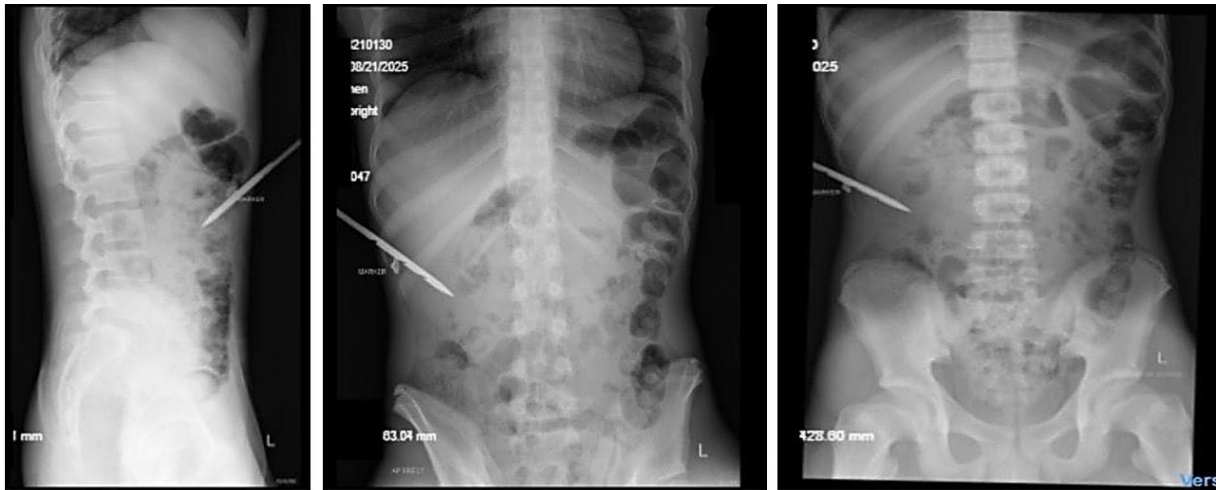


Figure 2. Abdominal X-ray

Case 2

A 19-year-old male was brought to the Emergency Department of RSUP Haji Adam Malik, Medan, with a penetrating injury to the posterior thoracic region. According to the patient and his relatives, he had accidentally been struck by a metallic object resembling a make shift arrow during a neighbourhood altercation. The incident occurred in the late evening of August 21, 2025. On admission, the patient was alert, oriented, and hemodynamically stable. Physical examination revealed a penetrating wound on the right posterior thoracic wall, with a metallic foreign body resembling a sharp rod still in situ (**Figure 3**). There was minimal active bleed in gotted around the wound, and no immediate signs of respiratory distress, hemodynamic instability, or neurovascular compromise at the time of presentation. The surgical team recommended urgent intervention to remove the foreign body and evaluate for potential intra thoracic injuries. The patient and his family were counselled regarding the risks of leaving the object in place, including infection, bleeding, and possible life-threatening complications. Despite this, due to financial limitations, the family declined further surgical management and requested discharge against medical advice. The patient was subsequently discharged with the foreign body still embedded in the right posterior thoracic region.



Figure 3. Sumpit lodged in the right posterior thoracic wall

Case 3

A 16-year-old male junior high school student was brought to the Emergency Department of Adam Malik General Hospital with decreased consciousness after being found unconscious on the road side. The circumstances surrounding the incident remain unclear. On external examination, a traditional Dayak weapon, a *sumpit*, was penetrating is right eye. The patient had experienced two episodes of vomiting prior to admission, but no reported history of headache or seizures. On arrival, he was comatose (GCSE2–3V2–3M5), with a metallic foreign body lodged in the right orbit and rupture of the right globe (**Figure 4**). The left pupil was 3–4 mm and reactive. Hemo dynamic instability, including tachycardia and hypotension, required intubation and ventilator support. Multi slice CT images (**Figure 5**) revealed the foreign body extending approximately 7.1cm from the right orbit into the temporal lobe, associated with temporal intra cerebral hemorrhage(~12cc), midline shift, intra ventricular and subarachnoid hemorrhage, cerebral edema, and globe rupture. Cervical spineradio graphs showed no fracture or listhesis (**Figure 6**). Key laboratory findings are summarized in**Table1**, highlighted abnormalities included marked leukocytosis, hyperglycemia, and mild coagulopathy, while other parameters were within normal limits. The working diagnosis was ape net rating trans-orbital intracranial injury with retained foreign body, complicated by multiple in tracraniel hemorrhages, raised intracranial pressure, and ocular rupture. Despite emergent neuro surgical interventions planned in collaboration with ophthalmology, the patient suffered cardiopulmonary arrest and was pronounced dead at 09:22on August 8, 2025



Figure 4. *Sumpit* projectile lodged in the right orbital region

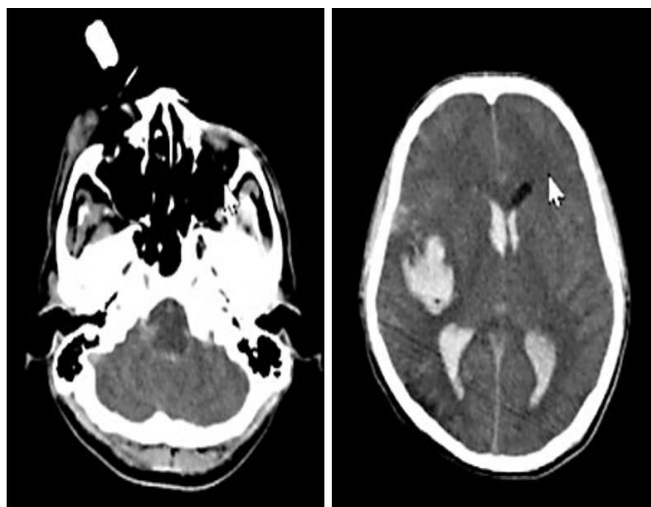


Figure 5. Multi slice CT images

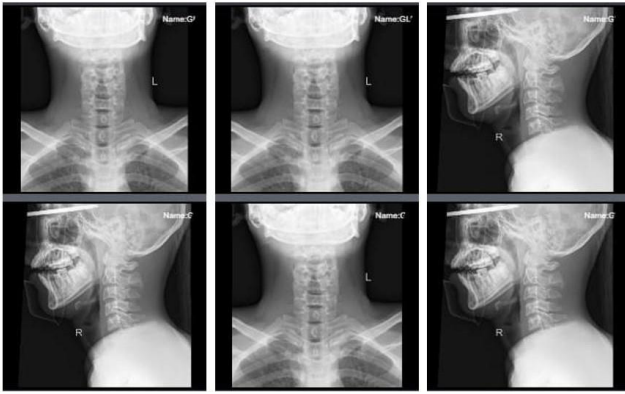


Figure 6. Cervical spine radio graph showing no evidence of fracture or listhesis

Table 1. Key laboratory results of Case 3 on admission.

Parameter	Result	Reference range	Remark
White blood cells	29,670 / μ L	4,000–11,000 / μ L	↑ Leukocytosis
Neutrophils	83.8 %	50–70 %	↑ Neutrophilia
Hemoglobin	15.2 g/dL	13–17 g/dL	Normal
Platelets	332,000 / μ L	150–450 $\times 10^3$ / μ L	Normal
Random blood glucose	232 mg/dL	<200 mg/dL	↑ Hyperglycemia
INR	1.30	0.9–1.1	Mildprolongation
Procalcitonin	0.27 ng/mL	<0.5 ng/mL	Normal
Creatinine	0.71 mg/dL	0.6–1.2 mg/dL	Normal
Sodium	146 mmol/L	135–145 mmol/L	Slightly elevated
Potassium	3.9 mmol/L	3.5–5.0 mmol/L	Normal
Arterial blood gas	pH7.41, pCO ₂ 26.0 mmHg, HCO ₃ ⁻ 16.7 mmol/L	–	Respiratory alkalosis with metabolic acidosis compensation

Note: INR= international normalized ratio.

DISCUSSION

The present case series highlights the forensic and clinical implications of injuries caused by the *sumpit*, a traditional blowpipe weapon, within the context of modern violence. The *sumpit* primarily functions by propelling small darts coated with potent toxins, such as alkaloids derived from indigenous plants. This mechanism of injury is distinct from many conventional projectile weapons due to its reliance on chemical toxicity combined with minimal mechanical damage. Victims typically present with small puncture wounds, and if there is any toxin, it plays a crucial role in lethality rather than the physical trauma alone. When comparing the injury patterns of *sumpit* and traditional arrows, both inflict penetrating trauma, yet the scale and nature of damage vary. Traditional arrows, used historically for hunting or war fare, tend to produce larger entry wounds and deeper tissue penetration due to their greater size, weight, and kinetic energy compared to *sumpit* darts. These injuries often involve significant mechanical disruption of

tissues and can affect internal organs depending on the arrow's design and force upon impact.^{2,3} Modern arrow weapons, such as cross bows and compound bows, represent technological advancements that significantly augment the kinetic energy and precision of projectile injuries. Modern cross bows can generate much higher velocity and force, resulting in deeper penetration and more extensive of tissue and osseous damage compared to traditional projectiles. The ballistic characteristics of modern arrows allow them to functional most into low-velocity fire arms in terms of injury severity and forensic features³. This evolution from traditional to modern projectile weapons underscores important differences in forensic investigation and clinical management. While *sumpit* related injuries require careful attention to toxin exposure and systemic effects alongside wound care, injuries from modern arrows demand prompt surgical intervention to address the consider able mechanical damage and potential complications.^{2,4} Although traditional weapons may appear obsolete in the modern era, the persistence of their use and the significant injuries and fatalities they cause demonstrates their continuing forensic and clinical relevance. In a hospital-based review of trauma-related deaths in Indonesia (2017–2021), 16cases (8.3%) were attributed to sharp trauma.⁵ This reflects the documented number of sharp trauma fatalities brought to the hospital during the study period. Another study, although not specific to *sumpit*, conducted by extracting 71 articles reporting 90 cross bow-related injuries show high mortality (42.2%). Fatality was strongly influenced by arrow type and intent: broad head arrows significantly increased risk of death compared to field tips, and assaults carried the highest mortality compared to suicides or accidents.⁶ In addition, the use of poisoned darts⁷ further complicates clinical and forensic management, as physicians are required not only to treat the penetrating trauma but also to address the systemic toxicity of the poison, which may worsen outcomes and obscure the cause of death. An example of a case series in Nigeria reported a patient that likely suffered from intra cerebral hemorrhage or neuro toxic effects caused by the arrow poison, resulting in his death.⁸

In conclusion, although the use of traditional weapons such as the *sumpit* may seem rare in the modern era, these cases demonstrate their ongoing capacity to causes ever injury and death. The addition of poison to the darts further increases their lethality, creating complex challenges for both clinicians and forensic experts. By documenting and analyzing these cases, this study emphasizes the need for continued awareness, preparedness, and medico legal attention toward trauma caused by traditional weapons.

CONCLUSION

The present case series illustrates that traditional weapons such as the *sumpit* continue to pose a major challenge for the health care system in contemporary Indonesia. Regard less of Cultural and historical background, *sumpit* injuries are difficult experiences for medical specialists and forensic professionals because the injuries have two separate but frequently concomitant mechanisms: penetrating action and the local risk of poisoning with toxins. The cases presented are varied from retained foreign bodies and death related to intracranial injury, with the additional impediment of socio economic obstacles that restrict available medical treatment. These results draw attention to the pressing need of more liability on part of clinical and forensic practice, as well as public awareness. This study highlights the necessity for ongoing knowledge, readiness, and medico legal care for trauma caused by conventional weapons by recording and examining these cases.

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