

SHORT COMMUNICATION

Traumatic Injuries from Suicidal Attempts: The Unseen Impact of COVID-19

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ABSTRACT

The COVID-19 pandemic in Malaysia imposed a strict lockdown that led to an increase in non-accidental suicidal attempts. This retrospective study examines 12 cases of suicidal attempts resulting in traumatic injuries treated at the General Surgery Department of Hospital Sultanah Aminah, Malaysia, between June and September 2021. The cohort predominantly comprised male patients (median age: 27.5 years), with penetrating injuries, particularly stab wounds, being the most frequent mechanism. A high mortality rate (41.7%) was observed, attributed primarily to hypoxic brain injury, severe burns, and visceral organ perforation. The findings underscore the potential influence of the COVID-19 pandemic on mental health crises, emphasising the critical need for integrated psychological support in trauma care. While trauma surgeons play a pivotal role in managing acute life-threatening injuries, early psychiatric intervention is essential to mitigate fatalities and address underlying psychosocial stressors.

INTRODUCTION

The COVID-19 pandemic in Malaysia led to a series of lockdowns, resulting in the third movement control order that occurred in Jun 2021. This had led to an enormous financial constraint on the community and the country's economy. Due to strict restrictions, there was a significant drop in accidental traumatic injuries. Albeit, there was a reciprocal increase in non-accidental suicidal attempts treated at

our institution (Tan Chor Lip, 2020). Concerns over mental health deterioration due to psychological distress in the general public were reported by various local mental health groups (Moni, 2021; Shanmugam, 2020). Adding on to the concern, during the peak of COVID-19-related deaths in August and September 2021, there were concomitant reports of an increasing number of suicidal cases (Pizaro, 2021). This is described as dual mortality during the pandemic due to suicide and COVID-19 by the psychiatric experts (Banerjee, 2021). A local publication reported an alarming rate of 11.1% among health care workers who had suicidal ideation during the pandemic (Sahimi, 2021). Owing to the rising suicidal cases and sequelae of life-threatening injuries, we describe a case series of suicidal attempts with injuries to different body regions, management strategies and the eventual outcome of these patients.

Table 1: Demography, mechanism, injuries, treatment and outcome of all patients with suicidal attempts

Age	Race	Gender	Mechanism	Injury sustained	Surgery performed/treatment given	Outcome (function/alive)
43 years, Chinese, man			Alleged suicidal attempt by slashing his throat.	Penetrating neck injury cuts through the superficial strap muscle, exposing the hyoid bone.	Exploration, debridement, muscle repair, toilet and suturing.	Survive
25 years, Chinese male			Alleged suicidal attempt by jumping from the 2nd floor	Tile C pelvis fracture with left zone 2 and 3 retro-peritoneal hematoma, L2 compression fracture with paraplegia	Laparotomy and extra peritoneal pelvic packing, Left sacroiliac joint screw fixation, left anterior column screw fixation and Posterior-lateral spine fusion of T12 to L3	Death
27 years, Malay male			Stabbed himself in the right chest wall region after arguing with his wife	Stab wound over the right thorax region with minimal right hemothorax	Chest tube	Survive
28 years, Malay male			Alleged suicidal attempt by hanging in a drug centre	Hypoxic brain injury and minor Cortical C1 fracture	Conservative management	Death
60 years, Indian male			Stabbed himself on the left lower abdominal wall after arguing with the children	Stab injury with evisceration of the bowel	Exploratory laparotomy, peritoneal lavage and underrunning of bleeders	Survive
27 years, Chinese male			Alleged suicidal attempt by slashing his throat	Penetrating Neck injury with Right internal Jugular Vein injury with Hypoxic Ischemic Encephalopathy	Neck Exploration and ligation of the proper internal Jugular Vein ligation	Death

MATERIALS AND METHODS

All patients who were treated for non-accidental attempted suicide injuries by the General Surgery Department of Hospital Sultanah Aminah, Malaysia, from June to Sept 2021 were included. This is a retrospective cohort study on all cases of traumatic suicidal injuries. All patients had psychiatric referral for assessment and psychosocial intervention; these cases were reported to the police. Demographic data, mechanism of injury, organ involved, hemodynamic parameters, blood investigations and operative details were retrieved. Patient outcomes after treatment were recorded and tabulated. The case details were retrieved from medical records and the trauma registry.

32 years, Indian female	Alleged suicidal attempt due to depression. Found by a passerby, the patient's body was on fire.	Sustained 52% burn over face, neck, anterior trunk, posterior trunk, right upper limb, bilateral anterior thigh (deep dermal), left upper limb (full thickness)	<i>Wound debridement</i>	Death
57 years, Indian male	Alleged suicidal attempt by shooting himself with a nail gun	Nail gun penetrating injury over the abdomen, skull and left axilla. Left frontal lobe nail with tip on corona radiata, bilateral abdominal wall nails, left anterior chest wall nail	<i>Craniotomy, laparotomy, Wound exploration and Nail Removal</i>	Survive
64 years, Malay male	Alleged suicidal attempt by stabbing himself in the umbilical region	Penetrating injury of the abdomen	<i>Laparotomy and Small Bowel Repair.</i>	Survive
26-year-old Chinese male	Alleged suicidal attempt by ingesting corrosive fluid, 100mls of Nitric acid	burning sensation over the throat, epigastric pain, vomiting, hoarseness of voice. Peritonitis. Severe metabolic acidosis, pH 6.9	Alkaline diuresis Intubation	Death
24-year-old Burmese male	Suicidal attempt fell from 3 3-story height	Minimal Subarachnoid haemorrhage in Rt parietal lobe and a slight contusional bleed in the left occipital lobe. Bilateral lung contusion with left first rib fracture. T7 Chance fracture, L1-L5 transverse process fracture. Multiple pelvic bone fractures involving the ilium and superior pubic ramus. Right femur fracture	Immobilisation of the fracture, internal fixation of the femur fracture.	Survive
24-year-old Nepalese male	Stab injury to the abdomen	Stab Injury to the abdomen	Diagnostic laparoscopy	Survive

RESULTS

We identified 12 cases of suicidal attempts with varying patterns of traumatic injuries. The median age is 27.5 years (24 to 64) and male predominant. Penetrating injuries (stabblings) were the most common mechanism of injury, with knives and nails being more frequently used. These penetrating injuries involved the abdomen, neck, chest and head. Other reported mechanisms of self-inflicted injuries were hanging, burns, corrosive ingestion and fall from height. A high mortality rate of 41.7%, with five deaths recorded from the total of 12 patients, was recorded (Table 1). The non-survivors have shown a trend of younger patients, injury related to a fall from

height, corrosive ingestion or flame burn. The survivors are more often older and due to stab injuries (Table 2).

DISCUSSION

Within developed nations, self-inflicted traumatic injuries leading to death have been reported and discussed widely. Due to that, established feedback systems for traumatic injuries and mental health have been set up to identify and prevent suicidal attempts. (Schecter, 2005). In contrast to high-income nations, low to middle-income nations contribute 78% of suicidal traumatic injuries due to a lack of an adequate feedback system. With the lockdown due to COVID-19, there

were increasing cases of suicidal and traumatic injuries, which are not reported regionally. This study reports a cohort of patients with suicidal traumatic injuries treated by a general surgical department. In concordance with the previous report, the age groups and gender involved in our series were similar in the 2nd to third decades of age and male predominant (Bachmann, 2018).

over 10 years with injuries from suicidal attempts. The demographic pattern is similar to the current series, which was seen more often in males and the younger age group. The patient pool includes a portion of expatriates from South Asia (55%), and more than half had psychiatric consultations. Like the current series, the injury patterns were mainly related to cutting or piercing. The mortality rate was

Table 2: Table summarising key differences between survivors and non-survivors (arranged in sequence following their age)

Survivors	Non-survivors
A 24-year-old Burmese man fell from a 3-storey height, with intracranial bleeding, lung contusion, spine and femur fracture.	25 years old, Chinese man jumping from the 2nd floor, pelvis fracture, retroperitoneal hematoma, spine compression fracture with paraplegia
A 24-year-old Nepalese man, with a stab injury to the abdomen	26 26-year-old Chinese man, ingesting corrosive fluid, 100mls of Nitric acid
27 years old, Malay man, Stab over right chest wall, minimal right haemothorax	27 years old, a Chinese man slashing his throat Penetrating Neck injury with Right internal Jugular Vein injury
43 years, Chinese, man, slashing his throat. Penetrating neck injury	28 years, Malay man, hanging, hypoxic brain injury and minor Cortical C1 fracture
57 57-year-old Indian man is shooting himself with a nail gun. Nail gun penetrating injury over the abdomen, skull and left axilla.	32 years, Indian lady, 52% burn
60 years old, an Indian man, stabbed himself on the left lower abdominal wall after having Stab injury with evisceration of the bowel	
64 years old, a Malay man, stabbing himself at the umbilical region. Penetrating injury of the abdomen	
Based on the comparison between cases of death and survivors, the deceased are usually younger patients, fall from height, corrosive ingestion, or flame burn. The survivors are more often older and have the mechanism of stab injuries.	

Commonly reported attempted suicides were by hanging, self-poisoning and firearms. In this current series, there were a higher number of stab injuries as the data were collected from the surgery unit alone. A trauma surgery unit in Qatar reported 206 patients

only 8%, far lower than our series (Al-Thani, 2020). This may be due to underreporting of minor suicidal injuries, as they may be discharged home directly from our emergency department, and the current reported series only included patients who are admitted to

the general surgery department. This cohort may have a higher severity of injury as they are referred with a possible need for surgical intervention (Tan Chor Lip, 2020).

During the movement restriction order due to the COVID-19 pandemic, Data in Malaysia records a rise in suicidal attempts. (Pizaro, 2021). This trend is also seen in other nations due to the distress caused by a restriction on movement. (Fayed & Sharif, 2021; Shields, 2021). The current series reporting 12 cases of suicidal attempts with serious injuries and death highlights the need for psychological intervention for the entire nation. Nonetheless, the collaboration of the emergency department, surgical unit, psychiatry, and public health plays an important role in this extreme spectrum of issues. (Al-Thani, 2020)

CONCLUSION

Rising suicidal injury and death are evident in this pandemic era. Death by suicide highlights the need for early psychiatric intervention. Trauma surgeons played the role at the end of the spectrum, where the outcome may not be changed if the injuries were too severe. Further research is needed to determine the psychiatric interventions on trauma-related suicide attempts.

CONFLICT OF INTEREST

The authors have no conflicts of interest.

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