

An Atypical Self-Inflicted Abdominal Stab Injury: A Case Report

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ABSTRACT

When dealing with cases of sharp force penetrating injuries, survival of the victim depends on injury to major blood vessels or major organs resulting in internal or external hemorrhage. Stab with intention of homicide although common, self inflicted stab injuries are less reported. We present an unusual self inflicted stab injury over an abdomen extending from front to back of the abdomen over epi-gastric region by a 52 years old male who managed to survive as it missed all the major blood vessels and solid organs that lied in between. On observation of characteristics of the wound, we have made an attempt to opine that the incident was self-inflicted with suicidal intentions.

Keywords: abdominal stab injury; self-inflicted.

INTRODUCTION

Sharp forces injuries are a type of mechanical injury produced by any sharp instruments, and are broadly classified as incised wounds, stab wounds and chop wounds.¹ Although less common than blunt force injury, sharp force injury remains one the major cause of violent death and trauma. Sharp force injuries are usually homicidal as suicide by sharp force represents only 1.6-3 % of cases.^{2,3} Forensic examiner are at times requested to opine regarding causative weapons which can be vital to establish *Corpus Delecti* of any incident. Although a subjective task with potential inter-observer bias; secondary characteristics (anatomical site, number of injuries, pattern and distribution of injuries, presence of hesitation cuts, defense wounds, conditions of clothes) of the wound, circumstantial evidence along with detailed medical and psychiatric history the victim can aid in establishing a corroborative evidence for judicial investigation purposes.

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CASE REPORT

We present a case of 52 years male, who presented to the emergency department of Kathmandu Medical College Teaching Hospital, with self inflicted stab injury to the abdomen with a kitchen knife. A Rs. 20 note was improvised as a standard measurement unit for photographic purpose and future interpretation, owing therapeutic urgency. On examination there was a vertically oriented, stab wound measuring approximately 2cm x 0.2cm, at the midline, over the blood smeared epi-gastric region of the abdomen with the kitchen knife in situ, and nearly whole of the blade of the knife penetrating into the abdominal cavity. Hesitation cut measuring 1cm x 0.2cm, was present just below the stab injury [Figure 1]. On initial examination at emergency department, the vitals of the patient were stable and the patient was conscious but was under the influence of alcohol.

Plain and contrast volumetric CT scan of the abdomen with multi-planar reformation of images and reviewed in appropriate window settings, which revealed evidence of an approximately 15cm long, 2.2cm wide and 0.5cm thick metallic foreign body with surrounding artifacts; penetrating within the abdominal cavity extending obliquely at the epi-gastric region with its lower margin indenting the

superior wall of the mid part of the transverse colon with multiple air loculi noted within the mesentery inferior to the transverse colon. The metallic foreign body was also abutting the lesser curvature of the stomach. Mild subcutaneous swelling with air loculi was noted in the anterior abdominal wall at the site of penetrating wound. [Figure 2] reveals the track of the stab injury to be directed medial to lateral, right to left side of the body and had travelled posterior downward.

Surgical therapeutic procedure; an exploratory laprotomy revealed perforation of jejunum, approximately 70cm from duodeno-jejunal flexure, with partial thickness serosal cut over the greater curvature of the stomach exposing retro-peritoneal hematoma behind the duodeno-jejunal flexure and body and tail of the pancreas. The jejunal perforation and serosal cut of stomach were repaired [Figure 3] and the foreign body (kitchen knife) was removed. Peritoneal lavage was done and the abdomen was then closed with drain in situ. The blade of the knife recovered had a single sharp edge, pointed tip and measured 17 cm in long and was 2.1cm wide [Figure 4]. Estimated 12 cm of the total blade length was found to have penetrated into the abdominal cavity at an angle ranging between 60 to 80° right towards inclined plane. The further hospital stay of the patient was uneventful and the patient made full recovery and was finally discharged from the hospital.



Figure 1: Stab injury in the epigastric region of abdomen with knife in situ. Hesitation cut just below the stab (indicated by an arrow).



Figure 2: CT scan of abdomen showing tract of the stab injury as depicted by an arrow



Figure 3: Jejunal repair



Figure 4: Kitchen knife recovered after the surgery.

DISCUSSION

Self inflicted sharp force injuries are usually in the form of incised wound while stab injuries are commonly homicide.⁴ Similarly the most common site of self inflicted sharp force injury is arms, followed by neck, followed by chest and abdomen.³ Recent studies suggest a change in trend of site of self inflicted sharp force injuries to be most common in chest, followed by arms, abdomen and then neck whereas abdomen a common site for infliction of homicidal stab.²

In this case the suicidal intent of the victim is supported not only by the history but also by text book explanation of presence of hesitation cut, absence of defense wound, direction of the force applied (from medial to lateral on left side) (by a right handed user) and absence of cut in the overlying cloth. The vertical orientation of the stab wound in this case contradicts the usual horizontal orientation which assumed to be more common in suicides than in homicides because of the manner of holding the knife, which results in the victim's self-inflicted injuries being more often horizontal.^{2,4,5} Although these significant observations of forensic value are subtle and mostly ignored while the doctors are focused on saving the life of the victim, such information can help provide an opinion regarding manner of infliction when required.

In stab injuries, the force required for an object to produce penetration depends on the configuration and sharpness of its tip. Once the skin is breached, the blade will slide in without much resistance till it hits the bone.^{6,7} Death in case of sharp force injury is due to injury to major blood vessels or to major organs which leads to internal or external hemorrhage.⁸ In present case, the chances of mortality of the victim would have been higher if any one or more of these organs were involved.

A narrow escape from death by the victim in this case is his survival, wherein, the 15 cm long blade of the knife penetrated obliquely into more than half the depth of abdominal cavity but still missed all the solid organs (liver, kidney, pancreas, spleen) as well as vascular organs (omentum and mesentery).

CONSENT: Case Report Consent Form was signed by the patient

CONFLICT OF INTEREST: None

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