

# What path does the bullet exit?

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## Abstract

**Introduction:** In therapeutic process, injuries arising from firearms, attention to bullet path and its specification play an important role in effective treatment of injured person. There are numerous reports about bullet movement in injured body which in this respect we have reported a rare case in an unconventional route within body. **Case report:** The injured was a 28 years old man who were admitted in Bandarabbas Khatamolanbia hospital due to shot in 2014 in whom an observed wound was seen in right lower side of abdominal wall adjoin to superior anterior border of iliac crest and the patient complained about abdominal and pelvic pain. In radiological study and exploratory laparotomy, there was no bullet trace but in traumatology examinations by coroner, stool exit from drain embedded in the wound was observed which by consulting with surgery services and next examination, rupture in distal rectum existing in out of peritoin was considered which the injured was transferred to operating theatre in order to amend rectum damaged region. The injured one was discharged from hospital 21 day after surgery. **Discussion and conclusion:** Our results showed that shotgun wound and anatomical lesions should be analyzed exactly using clinical examinations and radiological approaches and also bullet entrance in intestine as well as bullet exit from body natural orifices should be considered.

**Keywords:** wound, bullet, immigrant bullet, shotgun injury

## INTRODUCTION

In today modern world, a considerable penetrative traumas exist due to bullet strike <sup>[1]</sup>. Gunshot injuries have various effectiveness on different anatomical members causing abrupt or delay death or disability <sup>[2]</sup>. Generally, in therapeutic process for gunshot injuries, attention to bullet path and its determination have remarkable effects on proper treatment. Sometimes bullet moves out of ballistic path which in this respect, various reports about bullet movement in intravascular <sup>[3]</sup> as well as spinal column, kidney, ureter, intestines, skull and lungs have been obtained <sup>[4-6]</sup>.

The bullet shot to head and neck can be digested or aspirated to the respiratory system <sup>[7]</sup>. Here we reported a rare case about bullet movement in an unconventional path in body.

### Case report:

The injured was a 28 years old man who is hospitalized in Bandarabbas police force hospital following clash and shot in 2014 which reportedly, the volume of systolic and diastolic blood pressure were 110 and 80 mmHg, respectively and heartbeat and breath number were 122 time and 16 time/min, respectively. The injured was wakeful but a observed wound was observed right lower side of abdominal wall adjoin to superior anterior border of iliac crest, and also the injured suffered from pelvic and abdominal pain, but had Ability to move lower organs which indicated normality in sense,

movement and power. After talking off injured's clothes, a full examination was performed which ultimately no wound observe over body. In laboratory analyses, Hb:11.3 and the patient asked to do body scintigraphy on pelvis and stomach CT scan from which a fracture in right pelvis bone was found, so considering abdominal examination, the injured was transferred operating theatre and exploratory Laparotomy was carried out which with regard to normal peritoin interior, small intestine and Colon, the injured person transferred to ICU where drain was embedded in wound location.

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The orthopaedic consultant and forensics specialist were asked to do concurrent orthopaedic proceedings with forensic traumatology examination which according them, stool exit from drain existing in the wound was due to rupture in distal rectum place out of peritoiene.

It was when the injured was transferred to operating theatre in order to do colostomy aimed at stool path deviation and rectum injured site amendment. The injured was discharged 21 day after surgery.

### DISCUSSION AND CONCLUSION:

Most injury arising from missiles depend upon bullet speed so that in bullets with high speed including battle gun bullets, a direct injury is created which is followed by intensified injuries greater than bullet diameter due to shock wave and cavitations' [8]. Due to destruction of function potential structures, these damages are considered as on important challenge in reconstructive surgery [9].

The wound from rifled weapons depends on bullet speed or distance among which in medium speed, a case similar to above item occurs typic of entrance wound in soft tissue has simulated to enter a dirty pencil into skin, in other words, entrance wound size is smaller than bullet diameter and if bone be under skin, the wound will be in the form of skin rupture (asteroid and cruciate and bone structure will be comminuted) (fig 1 and 2).



Figure 1: Location bullet wound



Figure 2: radiographic hip-fracture

Exit wound occurs since entrance wound continues to other body side whose classical profile is steroid wound with peripheral steroid dermal whrikles resulting from bullet pressure to shieldless skin [10] so a delimma is expressed indicating that there is no bullet and exit wound in body to solve the delimma puzzle and to find answer, various probabilities with scientific explanation should be noticed:

1. The First probability: bullet density is not observed in body scintigraphy which can be true in plastic bullet [10], but is not in accord to judicial observation and klashikov metal bullet.
2. The Second probability: bullet exit from same entrance wound after striking to bone which in consideration to soft tissues damage beyond related bone, this probability can be rarely occurred.
3. The third probability: bullet exit from one body orifices which a case of stool exit from drain bore in wound was recognized a diagnostic clue. After entrance to right lower side of abdominal wall adjoin to superior anterior border of iliac crest, the bullet enters into body which is followed by pelvis bone strike and commuted fracture that ultimately enters into rectum in retroperitoin and exits from the same location. This is a rare occurrence which causes sergeon confusion. Considering to rare probability which is not impossible in medical science, exact examination and diagnostic analysis are diagnostic clues. However, a very much rare case shows bullet entrance into anus and exit from entrance wound which with regard to examination and absence of detritions ring and other entrance wound characteristics in rifled weapons, this very weak probability is cancelled.

Our conclusion showed that in injuries obtained from gunshot, the anatomic al lesions should be analyzed properly using clinical examination and radiological approaches, and also bullet entrance into intestine and exit from body natural orifices should be considered.

### Authors' Contribution:

Data collection and Draft: Ahmad haghiri dehbarez; Study design: Mehdi Lalezari; Critical review: Ali Alizadeh

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