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# CLINICAL PARADOX IN ISOLATED ABDOMINAL INJURY

General Surgery

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## ABSTRACT

Aim of this study was to compare isolated abdominal injury with abdominal injury in polytrauma with respect to pattern of injury, severity of injury and morbidity & mortality. Study was done on 130 patients of trauma, out of them 60 having isolated abdominal injury and in 70 cases abdominal injury was associated with polytrauma. In isolated injury patients (45%) operative intervention required was more as compared to polytrauma patients (30%). In this study 33% cases of polytrauma required hospital stay of more than 10 days, in isolated abdominal injury it was 25 % cases. In our study mortality rate was more in polytrauma group as compared to isolated abdominal injury (7.1% vs 5%). Abdominal trauma in isolated abdominal injury group was more severe as compared to polytrauma group, may be because of primary impact of injury on the abdomen. Although morbidity and mortality was more pronounced in polytrauma group. Further studies are required to prove either these results are significant or merely coincidental.

## KEYWORDS

Isolated abdominal injury; Polytauma; Splenic injury; Morbidity; Mortality.

### Introduction

Abdominal trauma is the leading cause of morbidity and mortality in all age group world wide.[1] Men are affected slightly more than woman.[2] Many injuries may not manifest during initial assessment and treatment period. Mechanism of injury often results in other associated injury that may divert the doctor's attention from potentially life threatening intra-abdominal injury.[1]However identifying serious intra-abdominal pathology due to trauma can be challenging.

Types of abdominal injury are broadly blunt abdominal trauma & penetrating abdominal trauma. Blunt abdominal trauma can result from either

compression (secondary to a direct blow or against a fixed object (e.g. seat belt) or from deceleration force. Most commonly injured organ are spleen, liver, small bowel, kidneys, bladder, colon, rectum, diaphragm & pancreas in order of decreasing frequency. Missed intra-abdominal injury or concealed hemorrhage are frequent cause of increased morbidity and mortality, especially in patient who survives the initially phase of an injury.[3] The causes are multiples and include gunshot, high velocity missiles & knives and trauma.

When head and blunt abdominal injuries are combined, the head Injury is often afforded too much attention and the abdominal injury too little, especially when the patient is unconscious. If mismanaged, the abdominal injury is often the more serious threat to life.

### MATERIAL & METHODS

A Prospective study on "Comparative study of isolated abdominal injury Vs abdominal injury associated with polytrauma" was conducted on patients admitted in surgical units of Mathura Das Mathur Hospital Jodhpur from July 2015 to June 2016.

### Selection criteria of patient:

- Patients of both sexes having abdominal injury surviving for more than 24 hours of admission.
- Children below age of 12 were not included in this study.
- Patients having isolated abdominal injury or abdominal injury with polytrauma were included.
- Patients who came under the following modes of injury: fall from height, road traffic accidents, assault and occupational injuries.
- Diabetic and cardiac patients not included in the study.

### OBSERVATION & DISCUSSION

Patients between age 20-30 yrs. were most commonly affected in both groups, 19 cases (n=60) in isolated abdominal injury & 31 cases (n = 70) in abdominal injury with polytrauma patients.

Males were predominantly involved in both groups as compared to females, 52 cases (n=60) in isolated abdominal injury and 64 cases (n=70) in abdominal injury with polytrauma patients.

**Table I: PATTERN OF ORGAN INVOLVEMENT**

| Type of Organ | Isolated abdominal injury (n=60) | Abdominal injury with polytrauma (n=70) | Total (n=130) |
|---|---|---|---|
| Solid | 28 | 38 | 56 (43%) |
| Hollow viscous | 19 | 07 | 26 (20%) |
| Non Specific | 16 | 25 | 41 (32%) |

Hollow viscus injury (31%) was second common type injury followed by non-specific type injury(26.6%) in isolated abdominal injury group whereas in polytrauma group NS (non-specific) type of injury(35.7%) was second most common type of injury followed by hollow viscus injury(10%).

In polytrauma group solid organ injury was most commonly seen with associated chest injury in 25 cases (n=38) as the proximity of spleen and liver to thoracic cavity followed by extremities injury 10 cases and seen in 09 cases of associated head trauma.

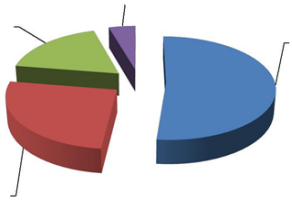

**Fig.1: Associated extra abdominal injury in polytrauma patients**

Hollow viscus injury was seen most commonly with associated extremities injury in 04 cases (n=7) followed by chest injury in 02 cases and not seen in associated spinal injury.

Non specific injury was also common in associated chest injury 18 cases (n=25) and in 09 cases of extremities injury.

Out of 60 cases of isolated abdominal injury 33 cases (55%) were managed conservatively and rest 27 cases (45%) were required operative interventions.

In case of abdominal injury with polytrauma out of 70 only 21(30%) cases were operated rest 49 cases (70%) were managed conservatively. In our study overall 63% patients managed conservatively and rest

37% required operative intervention.

In isolated injury patients operative intervention was required in more cases (45%) as compared to polytrauma patients (30%)(fig. 2). Above results indicates that abdominal trauma in isolated abdominal injury group was more severe as compare to polytrauma group, May be because of primary impact of injury other than abdomen in polytrauma group.

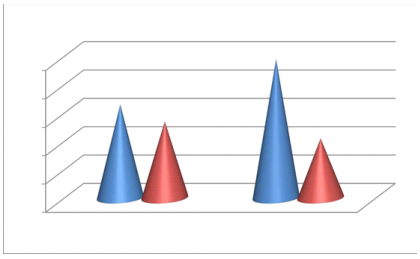

**Fig.2: Mode of management.**

Average hospital stay was 5-10 days in overall 60 cases (n=130). in isolated injury group it was seen in 21 cases (n=60) and in polytrauma group number was 39 (n=70). Number of patients who required admission more than 10 days was 23(33%) in polytrauma group whereas in isolated group it was 16 cases (26 %).17 cases (29%) of isolated abdominal injury patients discharged before 5 days but in polytrauma patient it was seen in only 14 cases (20%). The length of hospital stay has been reported to be an important measure of morbidity among trauma patients. In our study average hospital stay in both groups was 5-10 days. Less than 5 days hospital stay was more common in isolated abdominal injury29% cases as compared to polytrauma group (20%). The relatively short hospital stay in this study reflects early death in the deceased group and mild to moderate degree of injury among the survivors hence reduced the length of hospital stay. In this study 33% cases of polytrauma required hospital stay more than 10days, in isolated abdominal injury it was seen in 25 % cases.

**Table II: Outcome of injury in isolated injury & Polytrauma group**

| Outcome | Isolated abdominal Injury (n=60) | Abdomen Injury in Polytrauma (n=70) | Total |
|---|---|---|---|
| Survivors | 58 | 65 | 122 |
| Expired | 03 | 05 | 08 |
| Total | 60 | 70 | 130 |

In isolated abdominal injury out of 60 cases 57 cases survived only 03 cases (5%) expired whereas in polytrauma patients mortality seen in 05 cases (7.1 %).

In our study mortality rate was more in polytrauma group as compared to isolated abdominal injury (7.1% vs 5%). Among 05 expired cases of polytrauma 02 cases having associated head injury, 01 case having head and chest injury, rest two were having chest and extremities injury. These results suggest that concomitant head injury was associated with high mortality. Especially, the high probability of adverse outcome due to combined abdominal injuries and chest trauma in our and other studies should be taken into account during the early management of polytraumatized patients[4,5].

## CONCLUSION

To conclude severity of abdominal injury is more in isolated injury patients however associated polytrauma adversely affects the outcome of injury and increases mortality and morbidity. Further studies are required to prove that observations so made is significant or mere coincidental.

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