

# Experience of Primary Repair in Patients with Colonic Injuries at DHQ Teaching Hospital, Dera Ghazi Khan

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## ABSTRACT

**Aim:** To examine the complications and total recover associated to primary repair in patients presented with colonic injuries.

**Study Design:** Descriptive observational study

**Place & duration of study:** Department of Surgery, DG Khan Medical College Dera Ghazi Khan from 1<sup>st</sup> November, 2018 to 31<sup>st</sup> October 2019.

**Methods:** Two hundred patients of both genders with ages 15 to 60 years presented with colonic injuries were included. Demographical details were recorded. Complications associated to primary repair and rate of total recover were examined.

**Results:** There were 90% male patients while 10% were female patients. Sixty eight (34%) patients were ages 15 to 25 years, 65 (32.5%) were ages 26 to 35 years, 50 (25%) patients had ages 36 to 45 years and 18 (9%) patients had ages 46 to 60 years. Complications occurred in 58 (29%) patients. Thirty one (15.5%) patients had wound infection, 12 (6%) patients had wound dehiscence and 15 (7.5%) patients had intra-abdominal abscess. One hundred and sixty (80%) patients had full recovery during their hospital stay.

**Conclusion:** Primary repair surgical treatment for the colonic injuries is safe and effective treatment modality with less rate of complications.

**Keywords:** Colonic injury, Primary Repair, Complications, Recovery

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## INTRODUCTION

Abdominal trauma is source of significant mortality and morbidity with both blunt and penetrating mechanism.<sup>1</sup> Penetrating wounds are common in both military and civilian practice. Such injuries are frequently serious but a reduction in mortality in recent years reflects improved therapy. Patients with severe abdominal trauma are at risk of harboring life threatening injuries.<sup>2</sup> Many patients are in need of emergent operative intervention. The frequency of penetrating abdominal injuries varies across the globe, relates to industrialization of developing nations, the weapons available and significantly to the presence of military conflicts so its frequency varies.<sup>3</sup> The most commonly injured organ is reported to be gut worldwide<sup>4</sup>.

The colon is the second most frequently injured organ after small bowel in penetrating abdominal trauma. In contrast colonic injuries resulting from blunt trauma are rare and occur in 2-5% of patients.<sup>5</sup> Colonic trauma occurred in patients aged 19-28 years among them 83.5% were males in contrast to small group of female patients.<sup>6</sup> Gunshot injury and stabbings are the most commonly quoted etiology, accounting for 67-92% and 5-30% of colonic injuries, respectively.<sup>7</sup> Severe injuries of abdomen are at rise in Pakistan due to increasing violence interpersonal and communal clashes, robberies and increasing domestic violence. Colon because of its size and anatomical fixity is prone to injuries in these cases<sup>8</sup>.

Management of penetrating colonic injuries in civilian trauma population has evolved away from diversionary stoma to primary repair or resection anastomosis<sup>9</sup>. It has been favored over colostomy as it carries advantage of avoidance of colostomy, post-operative colostomy care and re-hospitalization and reoperation in terms of cost and morbidity<sup>10</sup>. For approximately 30 year time period, several international studies on the treatment of traumatic colonic injury showed that primary repair as well as resection and

anastomosis became rapidly emerging method<sup>11</sup>.

The present study was conducted to examine the complications and full recovery rate associated to primary repair in patients with colonic injuries.

## MATERIALS AND METHODS

This descriptive observational study was conducted at Department of Surgery, DHQ Teaching Hospital DG Khan from 1<sup>st</sup> Nov. 2018 to 31<sup>st</sup> Oct. 2019. Two hundred patients of both genders with ages 15 to 60 years presented with colonic injuries were included. Patients demographics including age and sex were recorded after taking written consent. Patients below 15 years of age, diabetes patients, history of chronic illness, chronic renal failure, patients with tuberculosis and those with head and neck injury were excluded. All the patients were examined carefully. Patients were undergoing single stage management like primary repair for colon injuries. Injured part of colon was identified; soiling of faecal matter was controlled by applying non crushing intestinal clamps. Non-viable margins were resected and haemostas were secured, and colon repaired in single layer interrupted, extra mucosal stitches by using Vicryl 2-0. Peritoneal cavity washed with 6liters normal saline, mopped and single drain placed in pelvis and abdomen closed in layers and aseptic dressing applied. Patients then shifted to surgical ward and kept patient nil per oral for five days. During the period IV fluid and IV antibiotics were given and patients were examined carefully till discharge. Complications associated to primary repair such as wound infection, wound dehiscence and intra-abdominal abscess were examined. Frequency of full recovery during hospital stay was recorded. Data was analyzed by SPSS 21. Frequencies and percentages were obtained and recorded

## RESULTS

There were 90% male patients while 10% female patients. Sixty eight (34%) patients were ages 15 to 25 years,

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65(32.5%) were ages 26 to 35 years, 50(25%) patients had ages 36 to 45 years and 17(8.5%) patients had ages 46 to 60 years (Table 1). Complications occurred in 58 (29%) patients. Thirty one (15.5%) patients had wound infection, 12 (6%) patients had wound dehiscence and 15 (7.5%) patients had intra-abdominal abscess (Table 2). 160(80%) patients had full recovery during their hospital stay (Table 3).

Table 1: Age and sex wise distribution of all the patients

Variable	No.	%
<b>Gender</b>		
Male	180	90.0
Female	20	10.0
<b>Age (years)</b>		
15 – 25	68	34.0
26 -35	65	32.5
36 – 45	50	25.0
46 – 60	17	8.5

Table 2: Complications associated to primary repair

Complications	No.	%
<b>Wound infection</b>		
Yes	31	15.5
No	169	84.5
<b>Wound Dehiscence</b>		
Yes	12	6.0
No	188	94.0
<b>Intra-abdominal abscess</b>		
Yes	15	7.5
No	185	92.5

Table 3: Frequency of full recovery

Full recovery	No.	%
Yes	160	80.0
No	40	20.0

## DISCUSSION

Abdominal trauma is the most common disorder associated with high rate of morbidity and mortality<sup>12</sup>. Management of colon injuries should be better and effective as it is highly associated with complications and mortality. 90% patients were male while 10% were females. 68(34%) patients were ages 15 to 25 years, 65 (32.5%) were ages 26 to 35 years, 50(25%) patients had ages 36 to 45 years and 17(8.5%) patients had ages 46 to 60 years. In our study 66.5% patients were ages between 15 to 35%. These results showed similarity to many previous studies in which male patients reported high in numbers 65 to 90% as compared to females<sup>13,14</sup>. Several studies resulted age group, 15 to 30 years was the most common age group among patients with colonic injuries<sup>15,16</sup>.

In the present study, we found 58(29%) patients had developed complications. A study conducted by Qureshi et al<sup>17</sup> regarding outcomes of primary repair in penetrating colonic injuries, they reported 21.4% patients had developed complications.

This study showed that 31(15.5%) patients had wound infection, 12(6%) patients had wound dehiscence and 15(7.5%) patients had intra-abdominal abscess. These results were comparable to some previous studies<sup>18,19</sup>. In present study the full recovery rate after surgical treatment was 80%. These results were similar to study conducted by Musa et al<sup>11</sup> prospective clinical trial of primary repair versus diversion colostomy in colonic injury cases. In which they reported primary repair is more safe and effective treatment modality as compared to colostomy in patients with colonic injuries.

## CONCLUSION

Primary repair surgical treatment for the colonic injuries is a safe and effective treatment modality with fewer rates of complications, 80% patients had full recovery during their hospital stay.

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