



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<http://doi.org/10.5281/zenodo.3956562>Available online at: <http://www.iajps.com>

Research Article

**ANALYSIS OF EFFECT OF CHRONIC CONSTIPATION ON
THE DEVELOPMENT OF INGUINAL HERNIATION**Dr Waqas Ahmad¹, Dr Hamza Mustafa², Dr Danial Haider³¹Shalamar medical and Dental College Lahore³DHQ and Allied hospital, Faisalabad**Article Received:** May 2020**Accepted:** June 2020**Published:** July 2020**Abstract:**

Introduction: Inguinal hernia repair is an extremely common operation performed by surgeons. More than 800,000 repairs performed annually. **Objectives:** The main objective of the study is to analyse the effect of chronic constipation on the development of inguinal herniation. **Material and methods:** This observational study was conducted in DHQ hospital, Faisalabad during March 2019 to November 2019. The patients included in the study group (group 1) were selected from patients with inguinal hernias with no other chronic disease who attended to the General Surgery Outpatient Unit. The control group (Group 2) was selected from patients who had no inguinal hernia complaints, no constipation and no other chronic disease which could increase the intra-abdominal pressure. **Results:** The mean age of patients in Group 1 and 2 was 40.92 ± 17.80 and 33.71 ± 9.13 , respectively. There was a significant difference between the two groups in terms of obstructive defecation and colonic inertia sub-scale scores ($p < 0.01$). A comparison between Group 1 and 2 in terms of OD sub scale score, CI subscale score, pain subscale score, and total scores showed significantly higher scores in Group 1 than in Group 2, except for the pain subscale. A statistically significant difference in all sub-scale scores of the CSS according to type was found among patients in Group 1, except for pain sub-scale scores. **Conclusion:** It is concluded that chronic constipation may facilitate the development of inguinal hernias through an increase in intra-abdominal pressure.

Corresponding author:**Dr Waqas Ahmad,**

Shalamar medical and Dental College Lahore

QR code



Please cite this article in press Waqas Ahmad et al, *Analysis Of Effect Of Chronic Constipation On The Development Of Inguinal Herniation.*, Indo Am. J. P. Sci, 2020; 07(07).

INTRODUCTION:

Inguinal hernia repair is an extremely common operation performed by surgeons. More than 800,000 repairs performed annually. An inguinal hernia is an opening in the myofascial plain of the oblique and transversalis muscles that can allow for herniation of intraabdominal or extraperitoneal organs [1]. These groin hernias can be divided into indirect, direct, and femoral based on location. Most patients present with a bulge or pain in the groin. Healthcare professionals recommend repairing all symptomatic hernias to avoid complications. An open or laparoscopic approach can be used with the goal of defect closure and a tension-free repair. A mesh is usually used for a tension-free repair. When the mesh is contraindicated, primary suture repair can be performed [2].

Even though the lifetime risk of developing an inguinal hernia is 27% for men and 3% for women, the etiology remains uncertain. Inguinal hernias can be subdivided into lateral and medial hernias. Inguinal hernias are almost exclusively lateral in children, whereas women and men have both subtypes [3]. Lateral hernias are more frequent, but medial hernias have a higher risk to recur after repair. Lateral and medial hernias are often treated similarly, even though the described differences in age, sex, and recurrence rates imply different etiologies [4].

Causes of inguinal hernia are known to be multifactorial, although not fully understood. Besides family history, and connective tissue diseases, the sudden increase in abdominal pressure as heavy lifting, chronic constipation, coughing, straining, situations such as difficulty urinating facilitate the formation and emergence of hernia. Constipation severity scale (CSS) was developed by Varma et al in 2008. CSS is a scale to determine the individuals defecation frequency, the intensity and difficulty during defecation. CSS has three subscales including Pain, Congestion stool and Large Intestine laziness (0-73 points). High scores indicate that serious symptoms [5].

Objectives

The main objective of the study is to analyse the effect of chronic constipation on the development of inguinal herniation.

MATERIAL AND METHODS:

This observational study was conducted in DHQ hospital, Faisalabad during March 2019 to November 2019. The patients included in the study group (group 1) were selected from patients with inguinal hernias with no other chronic disease who attended to the General Surgery Outpatient Unit. The control group (Group 2) was selected from patients who had no inguinal hernia complaints, no constipation and no other chronic disease which could increase the intra-abdominal pressure. The data was collected through systematically prepared questionnaire. After admission to surgery ward, patients in Group 1 were asked to complete the CSS. The results were recorded in the patient file, which was transferred to the surgery room along with the patient at the time of surgery. During surgery, the surgeon determined the type of the hernia. The data was collected and analysed using SPSS version 19. All the values were expressed in mean and standard deviation.

RESULTS:

The mean age of patients in Group 1 and 2 was 40.92 ± 17.80 and 33.71 ± 9.13 , respectively. There was a significant difference between the two groups in terms of obstructive defecation and colonic inertia sub-scale scores ($p < 0.01$). A comparison between Group 1 and 2 in terms of OD sub scale score, CI subscale score, pain subscale score, and total scores showed significantly higher scores in Group 1 than in Group 2, except for the pain subscale. A statistically significant difference in all sub-scale scores of the CSS according to type was found among patients in Group 1, except for pain sub-scale scores. A pair wise comparison between type and sub-scale scores of the CSS showed significantly lower OD and CI sub-scale scores in type 1 than in type 2, type 3A, and type 3B ($p > 0.01$), while only OD sub-scale score was significantly higher in type 2 as compared to type 3A hernias.

Table 01: Analysis of comparison of type and sub-scale values

	Nyhus type 1 (N = 15)	Nyhus type 2 (N = 41)	Nyhus type 3A (N = 36)	Nyhus type 3B (N = 7)	Nyhus type 3C (N = 1)	p value
OD sub-scale scores	3.20 ± 2.54 ^{a***b***c**}	12.70 ± 5.05 ^{d*}	9.80 ± 6.09	10.28 ± 5.61	10	<0.001
CI sub-scale scores	3.13 ± 2.72 ^{a***b***c*}	9.87 ± 5.35	8.27 ± 5.22	8.14 ± 6.30	6	<0.001
Pain sub-scale scores	1.66 ± 1.79 ^{a**c*}	3.70 ± 3.13	3.13 ± 3.35	4.57 ± 2.82	3	0.117
CSS Total	8.0 ± 4.64 ^{a***b***c***}	26.29 ± 10.63 ^{d*}	21.22 ± 12.56	23.00 ± 11.60	19	<0.001

Mean ± standard deviation, OD obstructive defecation, CI colonic inertia, CSS constipation severity scale

^a There's a difference between Nyhus type 1 and Nyhus type 2

^b There's a difference between Nyhus type 1 and Nyhus type 3A

^c There's a difference between Nyhus type 1 and Nyhus type 3B

^d There's a difference between Nyhus type 2 and Nyhus type 3A

^e There's a difference between Nyhus type 2 and Nyhus type 3B

^f There's a difference between Nyhus type 3A and Nyhus type 3B

*** $p < 0.001$, ** $p < 0.010$, * $p < 0.050$

DISCUSSION:

Studies have shown that inguinal hernia patients have demonstrated higher proportions of type III collagen as compared to type I. Type I collagen is associated with better tensile strength than type III. Studies have also shown that a patent processus vaginalis predisposes to the development of an inguinal hernia in adulthood [6]. The majority of pediatric inguinal hernias are thought to be congenital due to a patent processus vaginalis. During normal development, the testes descend from the abdomen into the scrotum leaving behind a diverticulum that protrudes through the inguinal canal and becomes the processus vaginalis. In normal development, the processus vaginalis closes around 40 weeks of gestation eliminating the peritoneal opening at the internal ring. Failure of this closure can lead to an indirect hernia in the pediatric population. A patent processus vaginalis does not always lead to an inguinal hernia [7].

CONCLUSION:

It is concluded that chronic constipation may facilitate the development of inguinal hernias through an increase in intra-abdominal pressure.

REFERENCES:

- Li J, Gong W, Liu Q. Intraoperative adjunctive techniques to reduce seroma formation in laparoscopic inguinal hernioplasty: a systematic review. *Hernia*. 2019 Aug;23(4):723-731.
- Fernando H, Garcia C, Hossack T, Ahmadi N, Thanigasalam R, Gillatt D, Leslie S, Doeuk N, Smith I, Woo HH. Incidence, Predictive Factors and Preventive Measures for Inguinal Hernia following Robotic and Laparoscopic Radical Prostatectomy: A Systematic Review. *J. Urol*. 2019 Jun;201(6):1072-1079.
- Schmitz R, Willeke F, Barr J, Scheidt M, Saelzer H, Darwich I, Zani S, Stephan D. Robotic Inguinal Hernia Repair (TAPP) First Experience with the New Senhance Robotic System. *Surg Technol Int*. 2019 May 15;34:243-249.
- Tam V, Rogers DE, Al-Abbas A, Borrebach J, Dunn SA, Zureikat AH, Zeh HJ, Hogg ME. Robotic Inguinal Hernia Repair: A Large Health System's Experience With the First 300 Cases and Review of the Literature. *J. Surg. Res*. 2019 Mar;235:98-104.
- Payiziwula J, Zhao PJ, Aierken A, Yao G, Apaer S, Li T, Tuxun T. Laparoscopy Versus Open Incarcerated Inguinal Hernia Repair in Octogenarians: Single-Center Experience With World Review. *Surg Laparosc Endosc Percutan Tech*. 2019 Apr;29(2):138-140.
- Clelland AD, Varsou O. A qualitative literature review exploring the role of the inguinal ligament in the context of inguinal disruption management. *Surg Radiol Anat*. 2019 Mar;41(3):265-274.
- Vu JV, Gunaseelan V, Dimick JB, Englesbe MJ, Campbell DA, Telem DA. Mechanisms of age and race differences in receiving minimally invasive inguinal hernia repair. *Surg Endosc*. 2019 Dec;33(12):4032-4037.