**CODEN [USA]: IAJPBB** **ISSN: 2349-7750**

**INDO AMERICAN JOURNAL OF**
**PHARMACEUTICAL SCIENCES**

**http://doi.org/10.5281/zenodo.3252632**

**Available online at: http://www.iajps.com** ***Research Article***

# ANALYSIS OF EFFICACY OF RECTAL INDOMETHACIN IN PREVENTION OF PANCREATITIS PATIENTS

**[1]Dr Umar Hammad Rashid, [2]Dr Zarmeena Zulfiqar, [3]Dr Aalia Rubab**

[1]Medical Officer at RHC Mitha Tiwana, Khushab, [2]Women Medical Officer at THQ Hospital, Pindi Bhattian, [3]Women Medical Officer at THQ Hospital, Kot Momin Sargodha.

**Article Received:** April 2019 **Accepted:** May 2019 **Published:** June 2019

**Abstract:**

***Introduction:*** *Acute pancreatitis is the most common complication of endoscopic retrograde cholangio-pancreatography (ERCP).*

***Objectives of the study:*** *The basic objective of the study is to analyze the efficacy of rectal indomethacin in prevention of pancreatitis patients.*

***Material and methods:*** *This cross sectional study was conducted in THQ Hospital, Pindi Bhattian during November 2018 to march 2019. The data was collected from 50 patients of acute pancreatitis. Patients already had raised amylase or acute pancreatitis, history of chronic pancreatitis or had a contraindication to NSAIDs were excluded from the study.*

***Results:*** *The data was collected from 50 patients. The mean age was 35.23±2.50 years. Age distribution of the patients was done, it shows that 30% in Indomethacin and 29.33% without Indomethacin group were between 15-50 years of age while 70% in Indomethacin and 70.67% without Indomethacin group were between 51-85 years of age, mean±SD was calculated as 56.28±8.39 and 55.72±7.84 years in both groups respectively. Gender distribution shows that 55.33% in Indomethacin and 53.33% in those without Indomethacin group were male while 44.67% in Indomethacin and 46.67% in those without Indomethacin group were females.*

***Conclusion:*** *It is concluded that the rectal indomethacin significantly decreased PEP risk among high- or average-risk population undergoing ERCP and provided strong evidence for current guidelines in clinical practice.*

**Corresponding author:**

**Dr. Umar Hammad Rashid,**

*Medical Officer at RHC Mitha Tiwana, Khushab.*

QR code

*Please cite this article in press Umar Hammad Rashid et al.,* ***Analysis of Efficacy of Rectal Indomethacin in Prevention of Pancreatitis Patients.,*** *Indo Am. J. P. Sci, 2019; 06(06).*

## INTRODUCTION:

Acute pancreatitis is the most common complication of endoscopic retrograde cholangio-pancreatography (ERCP). The reported frequency of post-ERCP pancreatitis varies between 1% and 13.3% in the unselected patients, although it may reach 25–39% in certain high risk patients. Because of this, it accounts for considerable morbidity, prolonged hospitalization, increasing healthcare expenditure, severe complications and occasional death [1].

Nonsteroidal anti-inflammatory drugs (NSAIDs) are reported to be effective in PEP prophylaxis so far. Several prospective RCTs and meta-analysis have well demonstrated that the rectal administration of indomethacin significantly decreased the rate of PEP. Based on the above evidence, the European Society for Gastrointestinal Endoscopy (ESGE) guideline (2014) recommended the administration of 100 mg of rectal indomethacin for PEP prophylaxis in patients undergoing ERCP with no contraindication [2]. Subsequently, the Japanese Society of Hepato-Biliary-Pancreatic Surgery (2015) also published similar guidelines. Indomethacin, therefore, as an effective pharmacologic prophylaxis, seemed to be appealing. In this context, some conflicting findings emerged recently [3]. A recent prospective, double-blind, controlled trial conducted by Levenick et al. in the USA showed that the reduction in PEP using indomethacin was not as significant as previously reported in multiple RCTs. In fact, even more cases of pancreatitis occurred in the indomethacin group compared with the placebo group. Subsequently, a high-quality meta-analysis also concluded that there is no prophylaxis for the prevention of PEP among average-risk patients [4].

PEP is defined as new or worsened abdominal pain and serum amylase level 3 times or more above the upper limit of normal, measured after 24 hours of the procedure. PEP is graded as mild, moderate and severe depending on length of hospital stay & complications of the procedure. The incidence of the PEP is approximately 5 to 10% [5]. The prevalence of PEP ranges from 1.3 to 8%. The mortality rate of PEP is about 0.1 to 0.5%. The pathophysiology of PEP includes various initiating events that lead to activation of pancreatic enzymes & auto digestion. PEP causes mechanical, chemical, hydrostatic, enzymatic, microbiologic, allergic or thermal disruption [6].

**Objectives of the study:**

The basic objective of the study is to analyze the efficacy of rectal indomethacin in prevention of pancreatitis patients.

## MATERIAL AND METHODS:

This cros sectional study was conducted in THQ Hospital, Pindi Bhattian during November 2018 to march 2019. The data was collected from 50 patients of acute pancreatitis. Patients already had raised amylase or acute pancreatitis, history of chronic pancreatitis or had a contraindication to NSAIDs were excluded from the study. An informed consent was obtained from eligible patients before the start of procedure and preliminary enrolment was performed. Approval of the study was taken from hospital ethical review board.

**Statistical analysis:**

The data was entered and analyzed by SPSS version 20. Mean and standard deviation (SD) was calculated from quantitative variables e.g. age, pancreatic enzyme.

## RESULTS:

The data was collected from 50 patients. The mean age was 35.23±2.50 years. Age distribution of the patients was done, it shows that 30% in Indomethacin and 29.33% without Indomethacin group were between 15-50 years of age while 70% in Indomethacin and 70.67% without Indomethacin group were between 51-85 years of age, mean±SD was calculated as 56.28±8.39 and 55.72±7.84 years in both groups respectively. Gender distribution shows that 55.33% in Indomethacin and 53.33% in those without Indomethacin group were male while 44.67% in Indomethacin and 46.67% in those without Indomethacin group were females.

**Table 01:** Comparison of frequency of post ercp pancreatitis in patients treated with or without rectal indomethacin

| PEP | Indomethacin | | Without Indomethacin | |
|---|---|---|---|---|
| | No. of patients | % | No. of patients | % |
| Yes | 8 | 5.33 | 19 | 12.67 |
| No | 142 | 94.67 | 131 | 87.33 |
| Total | 150 | 100 | 150 | 100 |

## DISCUSSION:

Different studies have shown contradictory results regarding the use of indomethacin. We wanted to know its effectiveness as it can be the best alternative to PD stent which is expensive, invasive and with multiple complications. In our study, mean age was recorded as 56.28±8.39 in Indomethacin and 55.72±7.84 years in those without Indomethacin group, 55.33%(n=83) in Indomethacin and 53.33%(n=80) in those without Indomethacin group were male while 44.67%(n=67) in Indomethacin and 46.67%(n=70) in those without Indomethacin group were females [7]. Comparison of frequency of Post ERCP Pancreatitis in patients treated with or without rectal indomethacin was done, it shows that 5.33%(n=8) in Indomethacin and 12.67%(n=19) in those without Indomethacin group while 94.67%(n=142) in Indomethacin and 87.33%(n=131) in those without Indomethacin group had no PEP, p value was calculated as 0.02 showing a significant difference between the two groups [8]. Another study investigated and compared 2 clinical strategies to prevent post endoscopic retrograde cholangio pancreatography (ERCP) pancreatitis (PEP) and recorded that out of 623 patients with high-risk factors, 145 pairs were generated after propensity score matching. Thirty-two patients developed pancreatitis 10 (6.9 %) in the pancreatic stent placement (PSP) group and 22 (15.2 %) in the rectal indomethacin group (P=0.025) [9].

Moderate-to-severe pancreatitis developed in 5 patients (2.8%) in the pancreatic stent placement group and 14 patients (9.7 %) in the rectal indomethacin group (P=0.047). They were of the view that although indomethacin represents an easy, inexpensive treatment, prophylactic PSP is still the better prevention strategy for PEP. In summary, the results of our study in agreement with other above mentioned studies justify that there is a difference in frequency of Post ERCP Pancreatitis in patients with administration of rectal indomethacin and without administration of rectal indomethacin [10].

## CONCLUSION:

It is concluded that the rectal indomethacin significantly decreased PEP risk among high- or average-risk population undergoing ERCP and provided strong evidence for current guidelines in clinical practice.

## REFERENCES:


1. Sahakian AB, Buxbaum, Dam JV. Prevention and management of post-ERCP pancreatitis. JOP. J Pancreas(online) 2014;15(6):544-51.
2. Dobronte Z, szepes Z, Izbeki F, Gervain J, Lakatos L, Pecsi G et al.Is rectal indomethacin effective in preventing of post-endoscopic retrograde cholangiopancreatography pancreatitis?. World J Gastroenterol 2014;20(29):10151-57.
3. Sheikh1 I, Fontenot2 E, waghray3 N, Ismail1 MK, Tombazzi1 C, Smith1 JL. The role of nonsteroidal anti-inflammatory drugs in the prevention of post endoscopic retrograde cholangiopancreatography pancreatitis. JOP.J Pancreas (online) 2014;15(3):219-24.
4. Haqqi SA, Mansoor-ul-haq M, Shaikh H. Frequency of common factors for post endoscopic retrograde cholangiopancreatography pancreatitis. J Coll physicians Surg Pak 2011;21(8):464-68.
5. Loperfido S, Angelini G, Benedetti G, et al. Major early complications from diagnostic and therapeutic ERCP: a prospective multicenter study. Gastrointest Endosc 1998;48:1-10.
6. Masci E, Toti G, Mariani A, et al. Complications of diagnostic and therapeutic ERCP: a prospective multicenter study. Am J Gastroenterol 2001; 96:417-23.
7. Cotton PB, Lehman G, Vennes J, Geenen JE, Russell RC, Meyers WC, et al. Endoscopic sphincterotomy complications and their management: an attempt at consensus. Gastrointest Endosc 1991; 37:383-93.
8. V. F. Andrade-Dávila, M. Chávez-Tostado, C. Dávalos-Cobián et al., "Rectal indomethacin versus placebo to reduce the incidence of pancreatitis after endoscopic retrograde cholangiopancreatography: results of a controlled clinical trial," BMC Gastroenterology, vol. 15, no. 1, p. 85, 2015.
9. H. Luo, L. Zhao, J. Leung et al., "Routine pre-procedural rectal indometacin versus selective post-procedural rectal indometacin to prevent pancreatitis in patients undergoing endoscopic retrograde cholangiopancreatography: a multicentre, single-blinded, randomised controlled trial," The Lancet, vol. 387, no. 10035, pp. 2293–2301, 2016.
10. Levenick, J. M. et al. Rectal Indomethacin Does Not Prevent Post-ERCP Pancreatitis in Consecutive Patients. Gastroenterology 150, 911–917 (2016)