



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<http://doi.org/10.5281/zenodo.4095722>Available online at: <http://www.iajps.com>

Research Article

**EFFICACY OF RECTAL INDOMETHACIN IN PREVENTION  
OF PANCREATITIS****Dr. Saima Javed<sup>1</sup>, Dr. Anum Iqbal<sup>2</sup>, Dr. Faiza Aziz<sup>3</sup>**

<sup>1</sup>Tehsil Headquarters Hospital Taunsa Sharif, District Dera Ghazi Khan, <sup>2</sup>Tehsil Headquarters Hospital, Taunsa Sharif District Dera Ghazi Khan, <sup>3</sup>Basic Health Unit 335 w/b Tehsil Mailsi, District Vehari.

**Article Received:** August 2020**Accepted:** September 2020**Published:** October 2020**Abstract:**

*The objective of this study is to find the efficacy of rectal indomethacin in prevention of pancreatitis in Pakistan. This cross sectional study was conducted at Dera Ghazi Khan Teaching Hospital during January 2020 to June 2019. There were 100 patients which were selected for this study. Patients divided into two groups. One group (50 patients) was given per rectal indomethacin while other group (50 patients) given no suppositories. Age distribution of the patients was done, it shows that 30%(n=45) in Indomethacin and 29.33%(n=44) without Indomethacin group were between 15-50 years of age while 70%(n=105) in Indomethacin and 70.67%(n=106) without Indomethacin group were between 51-85 years of age, mean  $\pm$  SD was calculated as 56.28 $\pm$ 8.39 and 55.72 $\pm$ 7.84 years in both groups respectively. It is concluded that the frequency of Post ERCP Pancreatitis is significantly lower in patients treated with rectal indomethacin when compared to those without it.*

**Corresponding author:****Dr. Saima Javed,**

Tehsil Headquarters Hospital Taunsa Sharif, District Dera Ghazi Khan.

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Please cite this article in press Saima Javed et al, *Efficacy Of Rectal Indomethacin In Prevention Of Pancreatitis.*, Indo Am. J. P. Sci, 2020; 07(10).

**INTRODUCTION:**

Endoscopic Retrograde Pancreaticholangiography (ERCP) is one of the most commonly performed, most complex and high risk endoscopic procedure performed for the treatment of various conditions of biliary and pancreatic ductal system. ERCP has a higher potential for complications that range from mild, non-lethal incidents with immediate resolution to major life threatening crises. A feared complication of ERCP is post-ERCP Pancreatitis (PEP) which occurs in 30 to 40 % of high risk patients [1].

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% [2]. 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. Multiple risk factors for the PEP have been identified and are broadly categorized into operator dependent, patient dependent & procedure dependent factor [3].

PEP appears unavoidable even in the hands of expert endoscopist. As a result, numerous endoscopic & pharmacologic interventions have been attempted to reduce the rate of complications [4]. Interventions include pancreatic duct (PD) stent placement, prophylactic placement of pancreatic duct wire guided cannulation, early precut biliary sphincterotomy and fistulotomy. Pharmacologic prophylaxis of PEP includes the administration of nifedipine, nitrates, heparin, allopurinol, N-acetylcystine, NSAIDs and many others. Majority of these agents showed disappointing results for prevention of PEP.<sup>9</sup> So

prophylactic placement of PD stent has gained widespread acceptance [5].

**Aims and objectives:**

The objective of this study is to find the efficacy of rectal indomethacin in prevention of pancreatitis.

**METHODOLOGY OF THE STUDY:**

This cross sectional study was conducted at Dera Ghazi Khan Teaching Hospital during January 2020 to June 2019. There were 100 patients which were selected for this study. Patients divided into two groups. One group (50 patients) was given per rectal indomethacin while other group (50 patients) given no suppositories. 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. ERCP was done under monitored anesthesia care (MAC).

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. Frequency & percentage was calculated for qualitative variables e.g. gender and PEP.

**RESULTS:**

Age distribution of the patients was done, it shows that 30%(n=45) in Indomethacin and 29.33%(n=44) without Indomethacin group were between 15-50 years of age while 70%(n=105) in Indomethacin and 70.67%(n=106) 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%(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.

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

PEP	Indomethacin (n=150)		Without Indomethacin (n=150)	
	No. of patients	%	No. of patients	%
Yes	8	5.33	19	12.67
No	142	94.67	131	87.33
<b>Total</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>

**DISCUSSION:**

The current study was planned with the view that multiple studies have been conducted internationally regarding the efficacy of indomethacin in preventing PEP but the research work is lacking at national level so we planned this research in our population [6]. 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  $56.28 \pm 8.39$  in Indomethacin and  $55.72 \pm 7.84$  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 [10].

**CONCLUSION:**

It is concluded that the frequency of Post ERCP Pancreatitis is significantly lower in patients treated with rectal indomethacin when compared to those

without it.

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