



## Chronic Pancreatitis with Pancreatic Calculi in Odisha, Surgical Procedures- A Study of 100 Cases

Authors

**Dr Debananda Tudu<sup>1</sup>, Dr Bana Bihari Mishra<sup>2</sup>, Dr Kasturi Bhardwaj<sup>3</sup>**

<sup>1</sup>Assoc. Professor, Dept of General Surgery, VSS Institute of Medical Sciences and Research, Burla, Odisha

<sup>2</sup>Professor, Department of General Surgery, SCB Medical College, Cuttack, Odisha

<sup>3</sup>PG Resident, IMS & SUM Hospital, Bhubaneswar, Odisha

Email: [dntudu7@gmail.com](mailto:dntudu7@gmail.com)

### Abstract

*Odisha is one of the capitals of Chronic Pancreatitis in India. The cause of chronic pancreatitis ranges from alcohol, smoking, hypercalcemia, idiopathic to autoimmune. Most of the patients with pancreatic calculi are males, alcoholic, diabetic, malnutrition with severe pain. CECT is the diagnostic investigation of choice. In the properly selected patient, operative management of pain due to chronic pancreatitis with calculi can be quite effective. Drainage procedure is the preferred surgery. In this study Frey's verses Partington-Rolchelle procedure was compared in terms of mortality, morbidity and functional outcome in both the procedures.*

### Introduction

Chronic pancreatitis is a disease of progressive inflammation of the exocrine pancreatic tissue compartment that in the late course extends to the endocrine tissue. It is more common in males and more in alcohol related pancreatitis. Majority of the patients present with upper abdominal pain as their first sign of the disease. Alcohol, smoking, genetic factors, metabolic disturbances and defects in the immunity are some of the etiological agents. Pancreatic calculi are the sequel of chronic pancreatitis and can occur in about 50% of patients with chronic pancreatitis. Treatment modalities are endoscopic or surgical which aims at clearing these calculi and reducing ductal hypertension, relieving pain, and improving quality of life. Drainage procedure is the best surgical approach to pancreatic calculi in chronic

pancreatitis. Partington-Rolchelle procedure drains the duct well in the majority of cases. In cases with stone load in the head/uncinate or with biliary obstruction this procedure does not give better result. Frey's procedures in these situations perform better.

### Material & Methods

100 cases of Chronic Pancreatitis with Pancreatic calculi where surgery was indicated were taken up for the study from December, 2011 to November 2017 at VSSIMSAR, Burla and at SCB Medical College, Cuttack. Patients with small duct disease were excluded from the study.

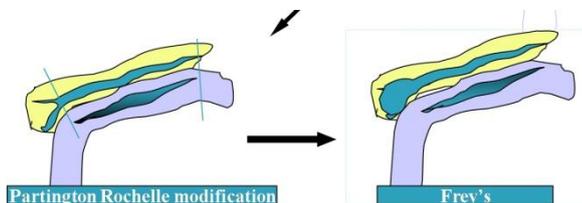
On admission they were subjected for thorough clinical history examination and investigated with Complete Blood count, Blood Sugar, Renal function test, Liver function test including serum

Protein and Coagulation profile. Ultrasonography of Abdomen, Upper GI Endoscopy and CECT of Abdomen & pelvis was done in all patients. In selected patient with Biliary obstruction MRCP was done.



Stone laden in the Pancreas

The surgical procedures was chosen as per stone load site. Majority of the patients were subjected to Patington – Rolchelle procedure. Patients with more of stone load in head or uncinata were subjected for Frey’s procedure.



Follow-up and comparison was done keeping pain recovery, exocrine function, endocrine function and residual/recurrent stone as the criterias.



Patington – Rolchelle procedure



Frey’s Procedure

**Age of the patients: Total number of cases 100**

Age in years	Numbers of cases
<30 years	1
30 – 40 years	9
40 – 50 years	41
50 – 60 years	37
>60 years	12

**Sex Distribution**

Male	Female	Total
77	23	100

**Clinical Presentation**

Symptoms	Number of cases
Pain	100
Weight loss	39
Diabetes	38
Steatorrhea	30
Jaundice	11

**Disease Distribution**

Disease	Number of cases
Dilated duct with calculi in the body & head	78
Predominantly head disease	20
Biliary obstruction	2

**Surgical Procedures undertaken**

Surgical procedure	Number of cases
Patington – Rolchelle procedure	78
Frey’s procedure	22

**Results**

Most of our patients were in the age group of 40 - 50 years of age (41%), followed by 50-60 years (37%). Male dominated over female (M: F = 3.4 :1). Pain was the most common symptom noted in all patients. Majority of the had dilated duct with calculi in the body and head (78%). Patington –Rolchelle procedure was done in the majority of the patients (78%).

In Frey's procedure the results in terms of pain relief and recurrence of stone is better than Patington – Rolchelle procedure. In pancreatic head mass with calculi and biliary obstruction results of Frey's procedure is better over Patington – Rolchelle procedure. However, procedure related complications like bleeding and anastomotic leaks are slightly higher in Frey's procedure. Rest of the results are same in both the procedures like exocrine and endocrine improvement.

### Conclusion

In drainage procedure there is High success rate, low procedure related complications and better parenchymal conservation. Drainage procedure is decided by the stone load site, Biliary obstruction and head mass. Frey's procedure is reserved for stones in the head, biliary obstruction and head mass. Dilated duct with calculi in the body Patington – Rolchelle procedure is enough. Recurrence of symptoms and stone is more seen in Patington – Rolchelle procedure than Frey's procedure. In Odihsa since head calculi are relatively more common, Frey's procedure is recommended in these subsets of patients.

### References

1. Partington PF, Rochelle REL. Modified Puestow procedure for retrograde drainage of the pancreatic duct. *Ann Surg* 1960;152:1037–43.
2. Frey CF, Smith GJ. Description and rationale of a new operation for chronic pancreatitis. *Pancreas* 1987;2:701–7.
3. Lucas CE, McIntosh B, Paley D, Ledgerwood AM, Vlahos A. Surgical decompression of ductal obstruction in patients with chronic pancreatitis. *Surgery* 1999;126:790–7.
4. Balakrishnan V, Unnikrishnan AG, Thomas V et al (2008) Chronic pancreatitis. A prospective nationwide study of 1,086 subjects from India. *JOP* 9(5):593–600.

5. Brock C, Nielsen LM, Lelic D, Drewes AM (2013) Pathophysiology of chronic pancreatitis. *World J Gastroenterol* 19(42):7231–7240.
6. Mullady DK, Yadav D, Amann ST et al (2011) Type of pain, pain associated complications, quality of life, disability and resource utilisation in chronic pancreatitis: a prospective cohort study. *Gut* 60(1):77–84.
7. Zuccaro P, Stevens T, Repas K et al (2009) Magnetic resonance cholangiopancreatography reports in the evaluation of chronic pancreatitis: a need for quality improvement. *Pancreatology* 9(6): 764–769.
8. Demir IE, Tieftrunk E, Maak M, Friess H, Ceyhan GO (2011) Pain mechanisms in chronic pancreatitis: of a master and his fire.
9. Langenbecks Arch Surg 396(2):151–160. D'Haese JG, Ceyhan GO, Demir IE, Tieftrunk E, Friess H (2014) Treatment options in painful chronic pancreatitis: a systematic review. *HPB (Oxford)* 16(6):512–521.