

## **A Case Of Adolescent Chronic Calcific Non Alcoholic pancreatitis And Autosomal Dominant Polycystic Kidney Disease**

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### **Abstract**

*Tropical chronic pancreatitis (TCP) is a type of chronic calcific non alcoholic pancreatitis mainly occurs in tropical countries. Younger age at onset ,intraductal calculi , intractable course of the disease and development of pancreatic cancer are the hallmarks of TCP. Pancreatitis is one of the differential diagnosis of abdominal pain in genetically inherited ADPKD patients. Medical treatment is the main stay of management. Surgical interventions are indicated only when or after failed medical therapy. Various surgical options are available in the literature. We present a case of TCP associated with ADPKD which was managed by Single layer Lateral Pancreaticojejunostomy procedure.*

**Key words :** Tropical Pancreatitis, ADPKD, Lateral Pancreaticojejunostomy

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### **I. Introduction**

Tropical chronic pancreatitis (TCP) is a distinct form of chronic calcific non alcoholic pancreatitis seen in almost exclusively in tropical regions. This disease is predominantly occurs in younger age group compared to alcoholic pancreatitis. Abdominal pain, steatorrhea, diabetes (Fibrocaltic Pancreatic Diabetes) are the classical features of TCP.<sup>1</sup> Pancreatitis is one of the causes of abdominal pain in autosomal dominant polycystic kidney disease (ADPKD).<sup>2</sup> But adolescent chronic calcific non alcoholic pancreatitis is rarely reported in ADPKD patients. Here we have discussed about a case of chronic calcific non alcoholic pancreatitis in a young ADPKD patient managed with surgical treatment.

### **II. Case Report**

15 years old boy presented to us with history of abdominal pain for the past 4 years. Previous history of recurrent admissions for the similar complaints. During the course of hospital admission patient was diagnosed to have Chronic Calcific Pancreatitis three years back and was on conservative treatment. Patient had frequent sick absenteeism due to intractable abdominal pain. Patient had no relief of pain despite taking medications for the same. Patient had history of deterioration in his day to day activities. No history of jaundice or loss of appetite/weight. On examination patient is malnourished. Biochemical investigations, renal function tests were within normal limits. Ultrasound and MRI revealed polycystic kidney disease. Nephrology opinion was sought and diagnosed ADPKD. His mother also had Polycystic kidney disease. ENT evaluation showed bilateral sensorineural hearing loss. His neurological and ophthalmology evaluation were sought and found to be normal. Contrast Enhanced Computed Tomography (CECT) of Abdomen and pelvis (Fig. 1) and Magnetic resonance imaging (MRI and MRCP) of Abdomen and pelvis showed diffuse atrophic pancreas with extensive calcifications throughout body and tail of pancreas with dilated Main Pancreatic Duct (MPD). In view of intractable abdominal pain, recurrent hospital admissions and frequent sick absenteeism from school and so planned for surgical management. After assessment, patient underwent surgery. Intraoperatively pancreas found to be hard and atrophic with dilated duct filled with stones (Fig. 2). Based on intraoperative findings we proceeded with single layer longitudinal pancreaticojejunostomy (Fig. 3).<sup>3</sup> Gastro intestinal continuity restored by jejunostomy. Postoperative period uneventful. Patient tolerated soft diet. Patient discharged on sixth postoperative day. Patient is on follow up and doing well.

### **III. Discussion**

Chronic pancreatitis is a characterized by irreversible progressive inflammatory disease which leads to morphological changes typically causing pain and exocrine / endocrine deficiencies or both. TCP occurs most often between second and third decade of life in people living in tropical regions. TCP commonly associated

with abdominal pain, steatorrhea and diabetes. In 1959, Zuidema, Indonesia first reported a series of cases with pancreatic calcification, diabetes and malnutrition .<sup>4</sup> In India, Geevarghese from Kerala, first to report many cases of TCP and described the famous aphorism “pain in childhood, diabetes in adolescence and death during prime of life” .<sup>5</sup> Kerala has the highest prevalence of chronic pancreatitis 125/ 100,000 population.<sup>6</sup> But recently the incidence of classical form of TCP is on the decreasing trend because of changing profile of chronic pancreatitis in tropical regions <sup>7</sup>. Various etiologies have been proposed to explain the cause for TCP like “The Malnutrition hypothesis, The Cassava hypothesis, Familial and genetic factors, Oxidative stress, Trace element deficiencies and Autoimmunity”. But none has been proved to be an exact etiology of TCP .<sup>8</sup> Development of pancreatic malignancies should be suspected in any TCP patients who has complaints of weight loss, back pain or jaundice. Management of patients with TCP includes medical management and surgery when there is intractable abdominal pain and complications. Surgical options include, Frey’s procedure or ductal decompression and drainage techniques .<sup>9,10</sup>In addition to pain relief surgery improves endocrine insufficiency also. ADPKD ia a genetically inherited disease which leads to chronic renal failure because of multiple renal cysts . The diagnosis of ADPKD is usually delayed because of gradual course and late onset of symptomatic phase .<sup>11,12</sup>ADPKD should be considered as a potential risk factor for recurrent acute or chronic pancreatitis and cholangitis .<sup>13</sup>Chronic pancreatitis due to pancreatic cysts in a patient with ADPKD was reported in the literature .<sup>2</sup> But the surgical management of chronic pancreatitis in ADPKD patient is yet to be established in the literature. In this case we have performed Parrington Rochelle’s procedure for adolescent chronic non alcoholic calcific pancreatitis in ADPKD patient for intractable abdominal pain.

#### **IV. Conclusion**

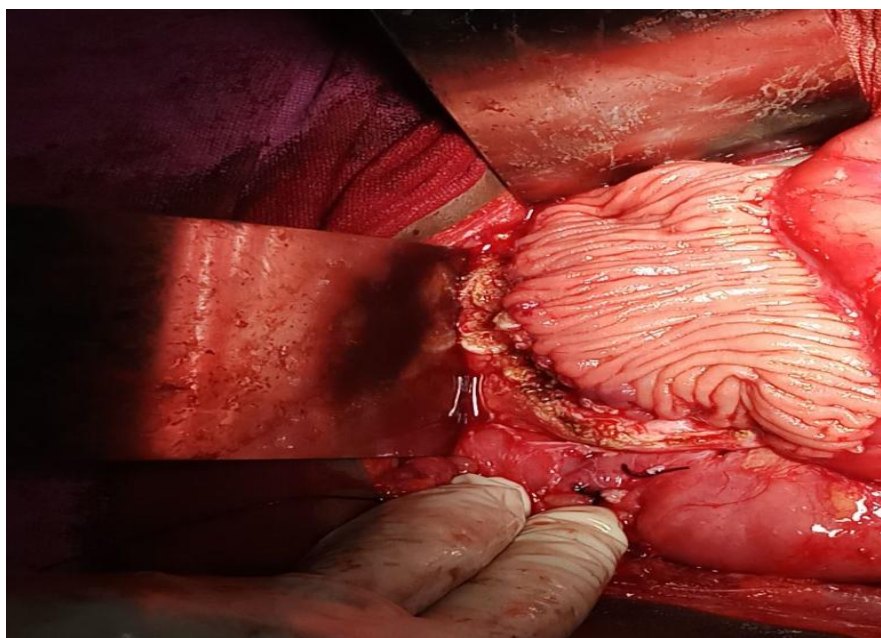
Etiology and predictability of the course of TCP is not well established. So, optimization of treatment remains difficult. Surgery is mainly palliative procedure for TCP. LPJ with single layer pancreaticojejunostomy is the best option for adolescent TCP with atrophic pancreas and intractable abdominal pain.



**Fig.1** :CECT showing diffuse atrophic pancreas with extensive calcifications throughout body and tail of pancreas with dilated Main Pancreatic Duct (MPD) with renal cyst



**Fig. 2:** Intraoperative picture showing hard and atrophic pancreas with dilated duct filled with stones



**Fig. 3 :** This picture showing single layer longitudinal pancreaticojejunostomy

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