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Annular Pancreas And Duodenal Obstruction : A Case Report

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Introduction

Annular Pancreas Is The Rare Congenital Anomaly Where The Pancreas Forms A Full Or Incomplete Ring Around The Second Segment Of The Duodenum, Causing Various Degrees Of Stenosis Or Atresia[1] First Recognised By Tiedman In 1818 And Named By Ecker In 1862. Three Varieties Of Pancreatic Fusion Anomalies Are Identified: Pancreas Divisum, Annular Pancreas And Portal Annular Pancreas.[2] Annular Pancreas Is Strongly Associated With Duodenal Atresia[1]

In This Study, We Present A Case With An Annular Pancreas Who Was Surgically Treated Urgently Due To Complete Duodenal Obstruction.

Case Report

A 31-Year-Old Man, With No Medical History, Consulted The Emergency Room For A 4 Days Course Of Evolution Of Epigastralgia With Uncontrollable Vomiting Resistant To Symptomatic Treatment, And Transit Disorder Such As Constipation.

On Physical Examination, The Patient Appeared Dehydrated And Cachectic, The Abdominal Succussion Splash Maneuver Is Positive.

Video Endoscopy (03/11/2024) Passable Ulcerated Pyloric Stenosis With Stasis Stomach, The Anatomopathology Showed A Minimal Chronic Antral Gastritis, Non-Atrophic, Non-Active, Without Dysplasia Or Metaplasia And Without Hp

Ct Scan Showed Marked Gastric And Duodenal Fluid Distension (D1 And D2), With The Stomach Reaching The Level Of The Umbilicus, This Sits Upstream Of The Passage Of D3 At The Level Of The Aortomesenteric Clamp With Reduced Aortomesenteric Distance And Angle, Measuring Respectively 3mm And 14° (Figue 1)

The Exploration Showed The Presence Of A Stasis Stomach Reaching The Pelvis Upstream Of Duodenal Stenosis On Annular Pancreas (Figure 2, 3, 4)

A Gastrojejunostomy Was Done, By 2 Hemi-Sutures With 3/0 Vicryl. The Patient Experienced

A Typical And Uneventful Recovery. On The 5th Postoperative Day, He Was Discharged With A Full Oral Diet. On Follow-Up, The Patient Was Fully Asymptomatic.

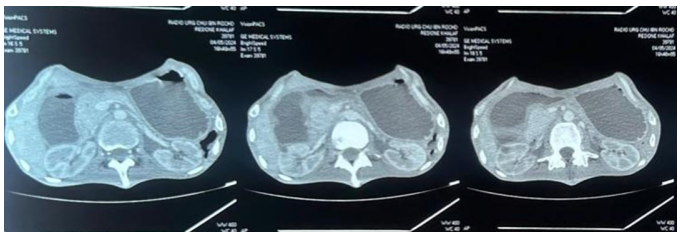

Figure 1 :

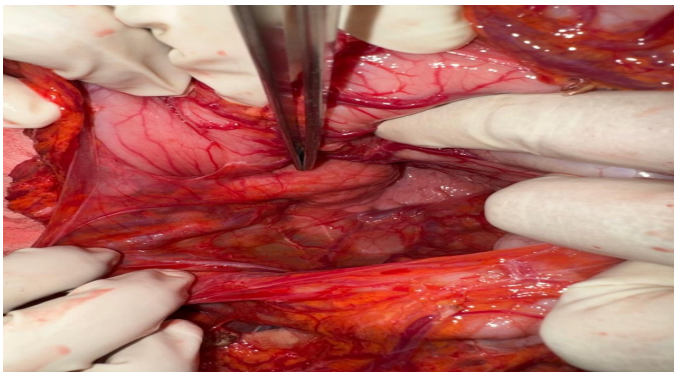

Figure 2

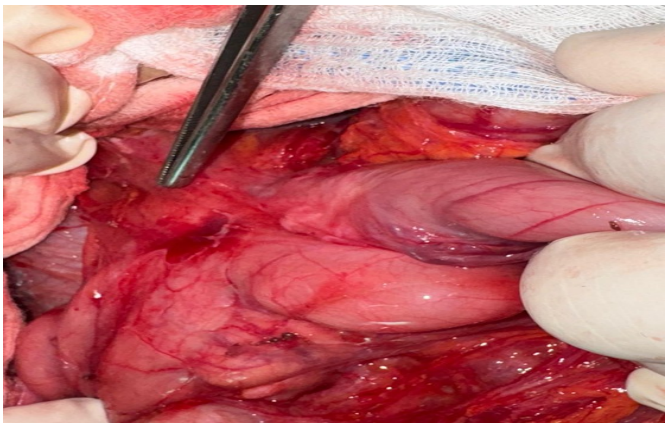

Figure 3

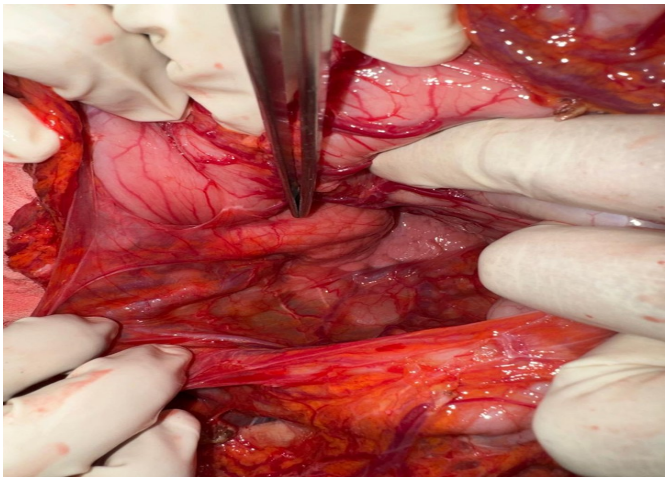

Figure 4

Discussion

The Annular Pancreas (Ap) Is A Rare Gastrointestinal Congenital Anomaly First Identified And Described By Tiedemann In 1818.[1] It Results From Defective Migration Of The Ventral Pancreatic Bud In The Seventh Week Of Embryonic Development, Subsequently Enveloping The Second Part Of The Duodenum. [3] It Is Present In <1% Of The And It May Be Associated With Trisomy 21, Duodenal Atresia, And Tracheoesophageal Fistula[4] The Annular Pancreas Can Remain Completely Asymptomatic, Only 33% Of Cases Are Symptomatic. In Adults, It Occurs Between The Ages Of 20 And 50, Most Often Due To Duodenal Stenosis [5]

The Current Theory For The Formation Of Annular Pancreas Is That Of Lecco (1910), According To Which The Head Of The Ventral Origin Fixates On The Anterior Segment Of The Duodenum (During The 5th Week). As A Result, During Rotation A Tissue Ring Remains Around It[1] Annular Pancreas Can Be Complete Or Incomplete. In Complete Annular Pancreas, A Complete Ring Of Pancreatic Tissue Surrounds The Duodenum. In Incomplete Annular Pancreas, An Incomplete Ring Of Pancreatic Tissue Surrounds A Portion Of The Circumference Of The Duodenum, Giving A “Crocodile Jaw” Appearance. Complete Annular Pancreas Is A Well -Known Entity; However, Incomplete Annular Pancreas Is Often Poorly Recognized And May Be Undetected, Especially In Patients Who Do Not Present With Duodenal Obstruction[6] As Far As The Clinical Image Is Concerned, The Degree Of Stenosis Caused By The Pancreatic Ring Around The Duodenum Determines The Time Of Appearance And The Symptoms’ Seriousness. It Is Estimated That In 67 % Of The Cases No Symptom Is Evident[1]

Preoperative Diagnosis Has Improved Considerably With The Development Of Newer Techniques Such As Ercp And Magnetic Resonance Cholangiopancreatography (Mrcp). Mrcp Has Superseded Ercp, As It Is Noninvasive. Annular Pancreas Can Be Diagnosed When Pancreatic Tissue Is Seen Encircling The Second Part Of Duodenum. On Ct And Mrcp, A Complete Ring Of Pancreatic Tissue Surrounding The Duodenum Suggests Complete Annular Pancreas, And Posterolateral Extension Of Pancreatic Tissue To The Duodenum Suggests Incomplete Annular Pancreas. Both Mri And Multidetector Ct Reveal Pancreatic Tissue Encircling The Duodenum, Which Retains The Signal Intensity And Density Of Normal Pancreas Even After Contrast Administration. Treatment Consists Of Bypassing The Duodenal Obstruction By Duodenoduodenostomy Or Laparoscopic Gastrojejunostomy.[6]

The First Annular Pancreas Recorded Was In 1862 By Ecker And The First Surgery Was Performed 43 Years Later, By The French Surgeon Vidal, Who Carried Out A Gastrojujenostomy . Nowadays, The Preferred Operation Is A Side-To-Side Or Proximal Transverse To Distal Longitudinal (Diamond-Shaped) Duodenoduodenostomy[1]

Resection Of Annular Pancreatic Tissue Is Performed Less Frequently Due To Its Association With Complications Such As Fistula Formation, Pancreatitis, And Duodenal Stenosis. The Medical Therapy Of Symptomatic Patients Has Minimal Significance.[7] Duodenal Bypass Is The Procedure Of Choice For Treating Duodenal Obstruction Caused By Annular Pancreas In Both Children And Adults.[8]

Conclusion

Annular Pancreas Is A Rare Congenital Anomaly. Often Asymptomatic In Adults, It Can Manifest As Upper Digestive Stenosis Syndrome. The Best Surgical Option Is Diamond Duodenoduodenostomy.

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