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CASE REPORT

BLUNT INJURY ABDOMEN CAUSING HOLLOW VISCOUS COMPLETE TRANSECTION: A RARE CASE

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INTRODUCTION: Abdominal Trauma is a common clinical entity occuring in an emergency surgical unit. It maybe be blunt or penetrating or blast injury. Blunt usually causes solid organ injury.[6] Blast causes hollow viscous injury. Penetrating injury may cause solid/ bowel injury depending on the injury.[7] Blunt injury abdomen causing hollow viscous injury is rare (0.1%). of that,[8] duodenal site injury is noted in 12% of cases.[9] Complete transaction of Duodenum is very rare and only a few cases have been reported. Usually associated with associated lumbar spine transverse process fracture.

CASE SCENARIO: 24 yr old Male presented to Casualty with H/O Acccidental Work Place Injury → Blunt Injury Abdomen (Crushed by Two Metal Objects) No Other Co-Morbidities.
O/E: Afebrile; GCS-15/15.
PALLOR +; MILD CYANOSIS +: No Icterus/Clubbing/Lymphadenopathy/Pedal Edema.
COLD, CLAMMY PERIPHERIES:

Pr-110/Min(Normal Vol.); Bp-90-60mm Hg.
Rs- Bae+; Cvs –S1s2 +.
P/A: Abrasions Over Upper Abdomen(Bilateral)
Not Warm;
Diffuse Tenderness (+) → Over Upper Abdomen;
Movement → Restricted;
Free Fluid (+)
Bs- (+) Sluggish
P/R→ Normal.

QUADRANT ASPIRATION:

Was Done Immediately → Showed Frank Blood.
Diagnosed →Blunt Injury With?Solid Organ Injury.
Inview Of Stable Hemodynamic Status, Pt Was Taken For Ct-Abd.

CT-ABD:

Free Fluid Abdomen
Suspicious Bowel Perforation
Peri-Nephric Hematoma
Retro Peritoneal Hematoma→ Over Abd Aorta: Pancreas.
Liver, Spleen → Normal
Bladder → Normal
T9, 10, 11 And L1 →Transverse Process Fracture.

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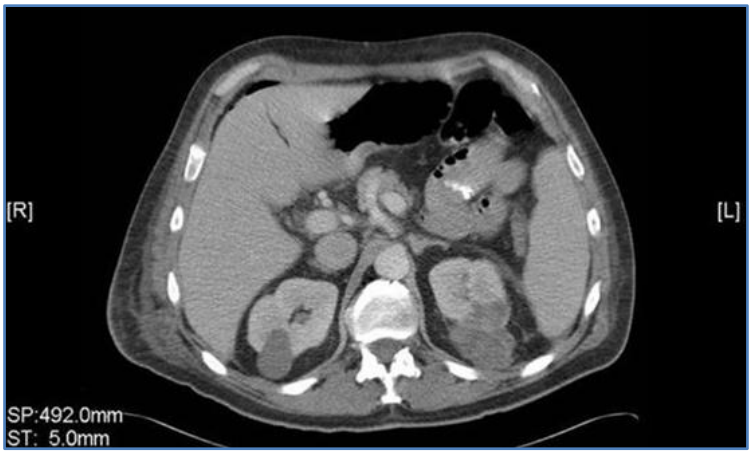
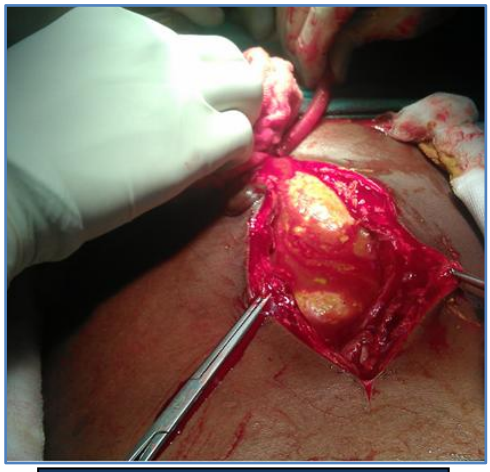


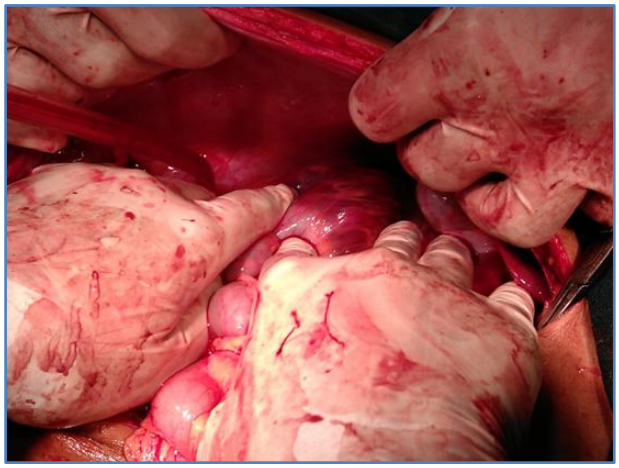
CT-ABDOMEN- PERINEPHRIC FLUID COLLECTION

INTRA OP FINDINGS:

Gastro – Duodenal Complete Transection
Rph → (Gr. 1 & 2)
Over Abd. Aorta(5x5x4cm)
Pancreas(5x4x4cm)
Kidney (Large 15x10x10cm)
Rt Paracolic Gutter
Hematoma + Over Lateral Parietal Wall.
Rest of Bowel – Normal.
Solid Organs (Liver and Spleen)- Normal.



HEMOPERITONEUM WITH GASTRIC CONTENTS



PANCREATIC HEMATOMA

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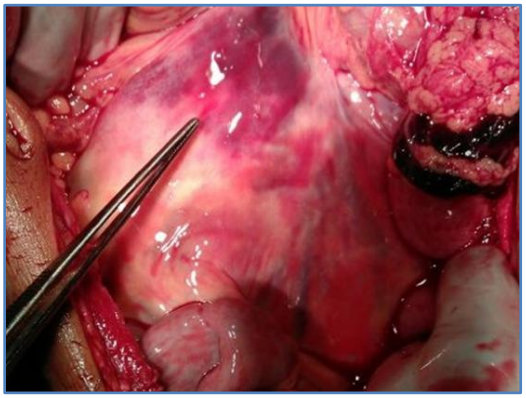
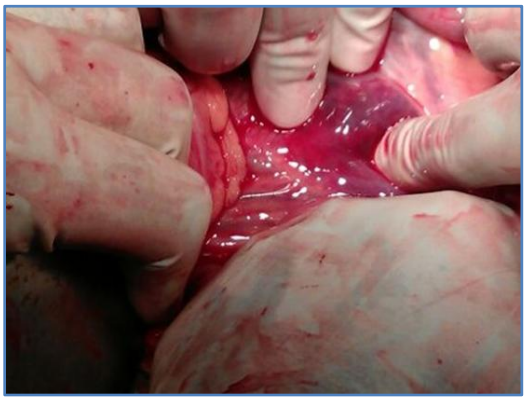
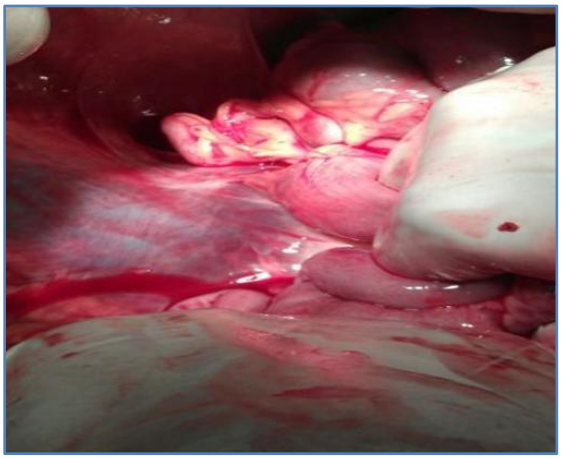


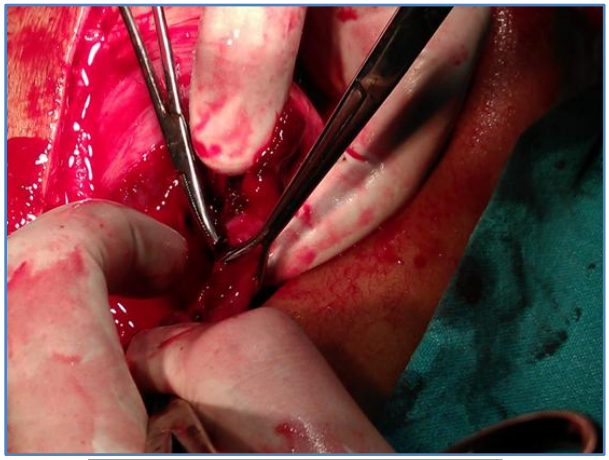
PERI NEPHRIC HEMATOMA



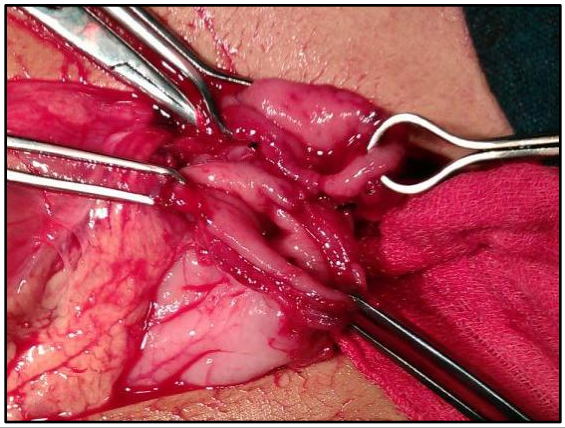
RPH OVER ABD AORTA



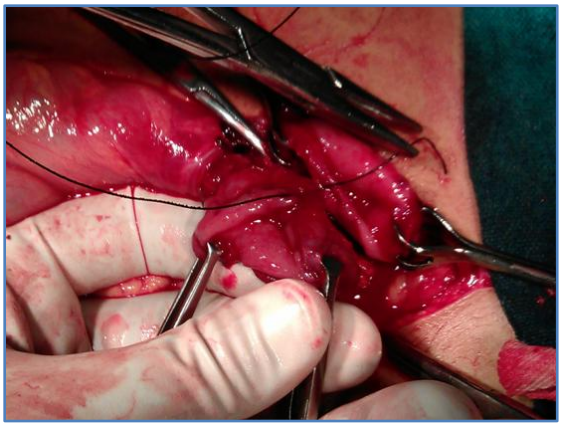
RT PARA COLIC GUTTER HEMATOMA



CUT END OF STOMACH



CUT ENDS OF STOMACH AND DUODENUM



TWO LAYER ANASTOMOSIS

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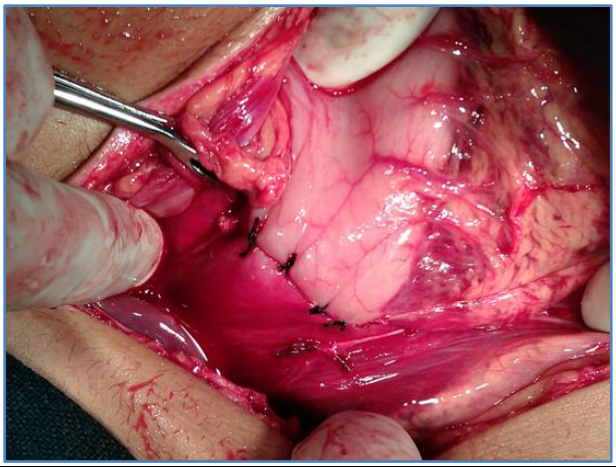

FINAL GASTRO-DUODENAL ANASTOMOSIS

POST OPERATIVE CONDITION: Pt Recovery Was Good. Started Oral Diet On 6th Pod. Tolerated Well. Sutures Removed 11th Pod. Discharged On 12th Pod. Well On Follow-Up

DISCUSSION: Blunt Injury Abdomen Usually Causes Solid Organ Injury. It Causing Hollow Viscous Injury Is Rare .Isolated Duodenal Injuries Following a Blunt Injury Abdomen Is very Uncommon.1-4% of All injuries of the Duodenum is caused by Blunt Trauma. Associated Injuries along with Blunt Duodenal Injuries compromise 1-4%.[10]Complete transaction of Duodenum Is very rare presentation comprising few cases. Our Patient Presented with Blunt Trauma and Caught Between two Machinery, and escaped Other Injuries. Ampulla is Preserved and also the Pylorus and Hence Patient was taken up for a Gastroduodenostomy and Anatomical continuity is restored.

Causes Maybe:

1. Crushing Of Bowel between Vertebral Column and the Anterior Abdominal Wall.
2. Tangential Tear of Bowel by External Force against Fixed Points of Bowel.
3. Sudden Increase In Intra-Luminal Pressure.

Common Sites of Involvement:

1. Terminal Ileum
2. Proximal Jejunum
3. Sigmoid Colon
4. Transverse Colon
5. Lastly, Duodenum & Stomach.

Clinical Presentation Maybe:

Vague: Severe & Life Threatening.
Associated With Other Systemic Involvement
Diffuse Tenderness Over Upper Abdomen
Tacchycardia; Vomitting
Rise in Temperature.

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May Present With Soft Abdomen (Completely Retro-Peritoneal Pathology).

MANAGEMENT:

Four - Quadrant Aspiration- Helpful.

Ct Abd→ Is The Investigation Of Choice

Explorative Laporotomy → Is The Best Diagnostic And Therapeutic Modality Till Date !!

Prognostic Factors:

Simple Injury / Destruction Of Wall.
Associated Bile/Pancreatic Duct Injuries.
Timing >24hrs.
Circumferential Involvement.
Relation To Ampulla of Vater

Other Treatment Modalities:

Antrectomy With Billroth 2 Gj.
Closure Of Duodenal Stump And Gj.
Roux –En- Y Loop.
Duodenal Diversion → Triple Ostomy.
Pyloric Exclusion Procedure.
Pancreatico-Duodenectomy.

Suture DehiscenceOccurs In:

>75% Wall Circumference.
Injury To D2/ D1 –Repaired Under Tension.
Patient Received After >24 Hrs And Late Start Of Treatment..
Associated Cbd/ Pancreatic Duct Injuries.

CONCLUSION: Blunt Injury Causing Hollow Viscous Complete Transection Is A Rare Entity. Requires an High Index Of Suspicion.

CT scan is an Useful Investigation (In Stable Patients).Most Injuries Require Only Simple Primary Repair.

Complex Injuriesmay Require Higher Techniques After Careful Contemplation.

Pancreatico-Duodenectomy→ If Unsalvageable

Complication In Duodenum→Suture Dehiscence: Treated With Duodenal Diversion.

Duodenal Transection can be managed by Primary Anastomosis as long as Ampulla is not involved and segment is short and D2/D3 not involved.

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