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Suspicious pancreatic Tu lesion - mid-term finding after pancreatic trauma

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INTRODUCTION

- Pancreatic tumor lesions represent a challenging differential diagnosis.
- Abdominal trauma is not an uncommon clinical diagnosis in the emergency room or shock trauma center:
  * It is one of the most challenging clinical pictures in the world of abdominal surgery & in clinical interdisciplinary management.
  * The competent surgeon must take care of this entity as part of a cooperating team of specialist representatives with all their experience, due to
    - Unexpected accidents,
    - Case constellations &
    - Individual progressions

[MEYER *et* BRUNS]

GOAL - Question

By means of a scientific "case report", the interesting & rarely described, therefore newsworthy case of a patient with

An unclear tumor mass within the pancreatic head diagnosed by coincidence & suspicious for a serious tumor(-like) lesion, which could be traced back to blunt abdominal trauma

is to be illustrated based on periop. / -interventional management experiences (and) relevant selective references from the literature,

which can also be further used for presentation in surgical lectures and as teaching poster.

MEDICAL HISTORY

Current:
- Male patient, 57 years old
  * Initial diagnosis of prostate cancer in June 2021
  * Computed tomography (CT) scan of thorax & abdomen for staging
    → Tumor mass of the pancreatic body of unclear significance
  * At present, no acute symptom(s)

Own: - Falling down stairs, whioch caused blunt abdominal trauma & post-traumatic pancreatitis
→ Conservative (non-operative/-interventional)therapy – University Hospital of Magdeburg (Germany) in 2020

Further diagnoses: * Prostate cancer
* Arteral hypertension
* Chronic nicotine abuse & alcohol consumption

PRESENT STATE

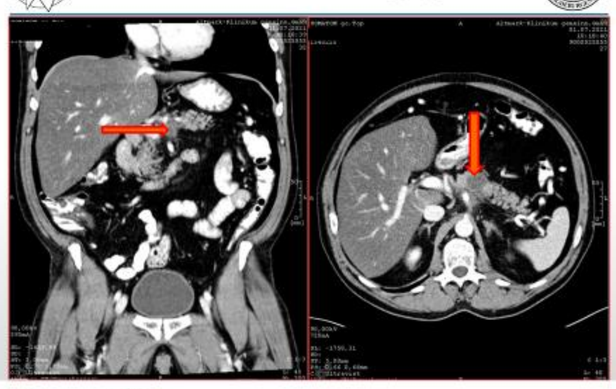
... Male patient – 57 years old

- Good general status & (normosomatic) nutritional status
- Orientated
- Stable cardiopulmonary status - no dyspnea / angina pectoris
- Abdominal exam: Soft - no defensive tension - no pressure pain
  Real peristalsis across all quadrants
  No pain in the kidney bed on either side
  No finding at the median laparotomy scar (after open prostatectomy)

DIAGNOSTICS

- Thoracic & abdominal CT scan
- Endoscopic ultrasound (EUS):
  * (Complementary) Imaging
  * Puncture for tissue sampling
- Histopathologic investigation of puncture specimen

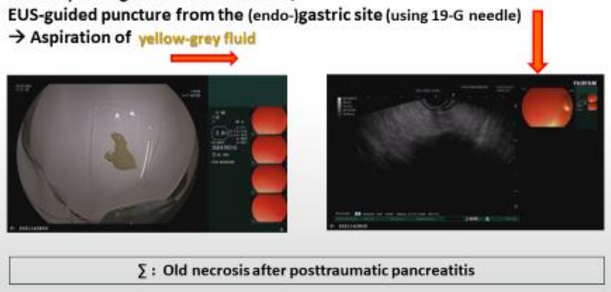
DIAGNOSTICS - Imaging



CT scan from 07/01/2021

DIAGNOSTICS (II) - Imaging (2)

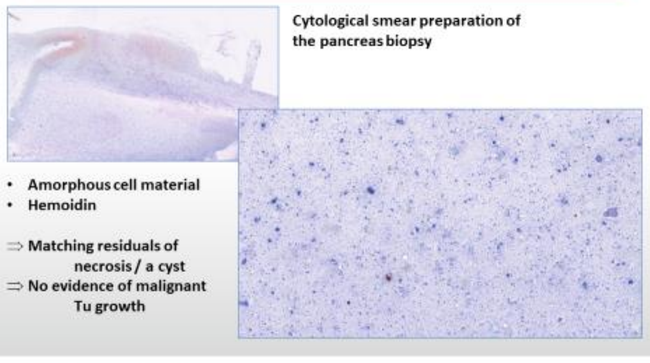
Pancreas unremarkable - as revealed by CT scan,
Semi-liquid edge in the isthmus area,
EUS-guided puncture from the (endo-)gastric site (using 19-G needle)
→ Aspiration of yellow-grey fluid



∑ : Old necrosis after posttraumatic pancreatitis

EUS-based imaging & -guided puncture

DIAGNOSTICS (III) - Cytology



Cytological smear preparation of the pancreas biopsy

- Amorphous cell material
- Hemoidin

⇒ Matching residuals of necrosis / a cyst
⇒ No evidence of malignant Tu growth

WORKING DIAGNOSIS

- including differential diagnoses

- Any mass of the pancreas - until proven otherwise
  → is suspicious of malignant tumor growth(!)
- Questionable distant metastasis of the prostate cancer
- Independent tumor entity
- Pancreatic (pseudo)cyst
- Intraductal papillary mucinous neoplasm (IPMN)
- Serous cystic neoplasm (SCN)
- Mucinous cystic neoplasm (MCN)
- Solid-pseudopapillary pancreatic tumor ("Frantz tumor")

THERAPY

TREATMENT ASPECTS:

- Falling down stairs – in August 2020
- Lab, showing elevated inflammatory parameters → CT scan
  * Results: Serous exudative pancreatitis w/ minor hemorrhagic admixtures
  * Therapy: Conservative (non-operative/-interventional treatment; infusion therapy & antibiotics)
    Discharge soon

COURSE

CASE DEVELOPMENT ASPECTS:

- New diagnosis of prostate cancer (1st Dx, in June 2021) w/ subsequent CT scan for staging
- Accidental finding: Tu mass of the pancreas
- Presentation in: - Outpatient clinic of the Dept. of Surgery & Tumor board
  →→→ Clarification of dignity
- Blood results, tumor marker
- Ultrasound
- EUS with fine needle puncture

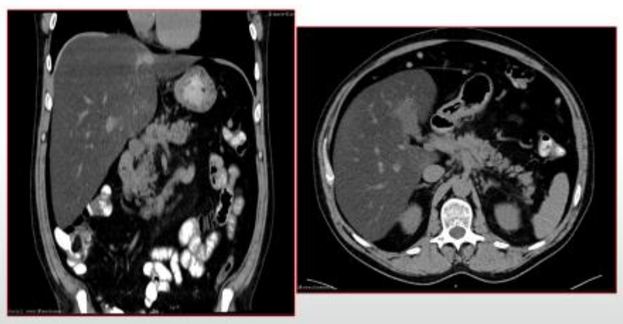
COURSE - Finding details

Ultrasound:
Liver: Enlarged (right liver lobe approx. 16 cm in MCL), contours smooth, edges lumpy
Intrahepatic biliary system not expanded, common bile duct w/ normal width
Pancreas: At best only vaguely visible
Does not show the lesion described in the EUS
Duct system not recognizable, no lymph node swelling along the large vessels
ASSESSMENT: - Steatosis hepatis
- Hepatomegaly
- Pancreas not visible

EUS – 07/19/2021
Pancreas unremarkable, as shown in CT scan - semi-liquid edge in the isthmus area
Puncture – from endogastric site (19-G needle): Aspiration of yellow-gray liquid
ASSESSMENT: Old necrosis of pancreatic parenchyma after trauma, pancreatitis

Tumorboard – 07/22/2021
Histology: No malignant cells
EUS: liquid mass → Follow-up investigation with ultrasound within 3 months
Lab: CA 19-9, < 9 U/mL // CEA, 1.7 ng/mL

COURSE - Imaging



CT scan from 12/14/2021

DISCUSSION

- Pancreatic trauma

Rarely affected organ due to the deep retroperitoneal location of the pancreas
(~ 7 % of all abdominal traumas; co-injuries to other abdominal organs are common)

The severity of the injury to the pancreas often determines the course of the disease.
Traffic accidents & falls from great heights are often the cause of trauma.
The classification is based on the site of the injury within the organ & the severity:

- Complete transversal rupture: Parenchyma & pancreatic duct are severed
- Subcapsular rupture: Capsule intact w/ ruptured pancreatic duct
- Pancreatic contusion: Capsule & parenchyma preserved, hematoma

IMAGING: Ultrasound, EUS, CT scan, MRI/MRCP
THERAPY: Depends on the extent of the findings ranging from drainage insertion & organ suturing to resection - pancreatic resections should be avoided
COMPLICATIONS: Organ dysfunction up to loss, bleeding, infections

CONCLUSION

(„take home message")

- Any (unclear) PANCREAS(-associated) Tu mass must be clarified.
- A precise medical history of the patient provides information about previous illnesses & also trauma events with long-term consequences, as impressively shown in the case presented.
- In the case of blunt abdominal trauma, injury to the pancreas should also be considered - lipase is part of the relevant laboratory parameter profile both initially and over time.