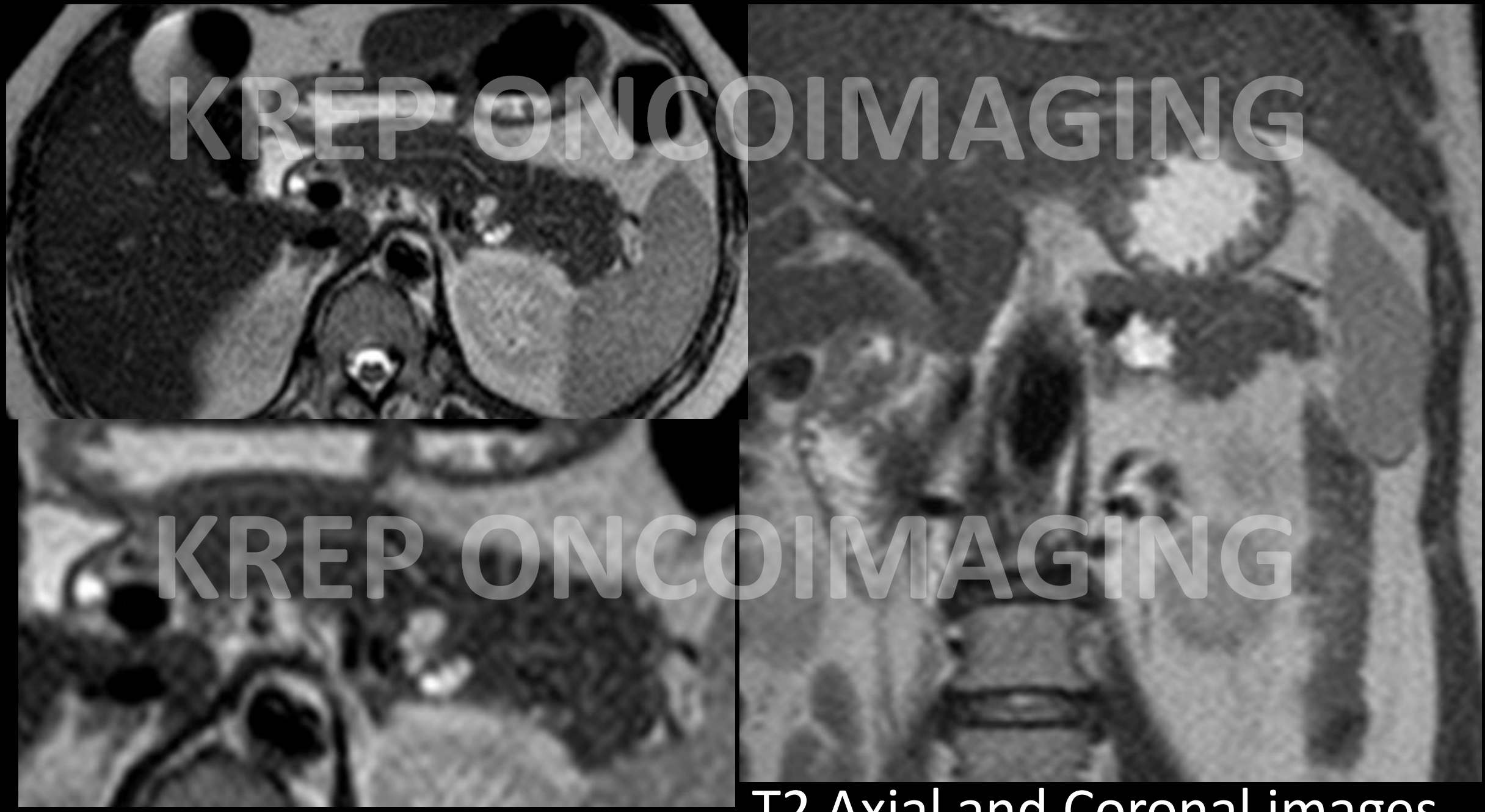
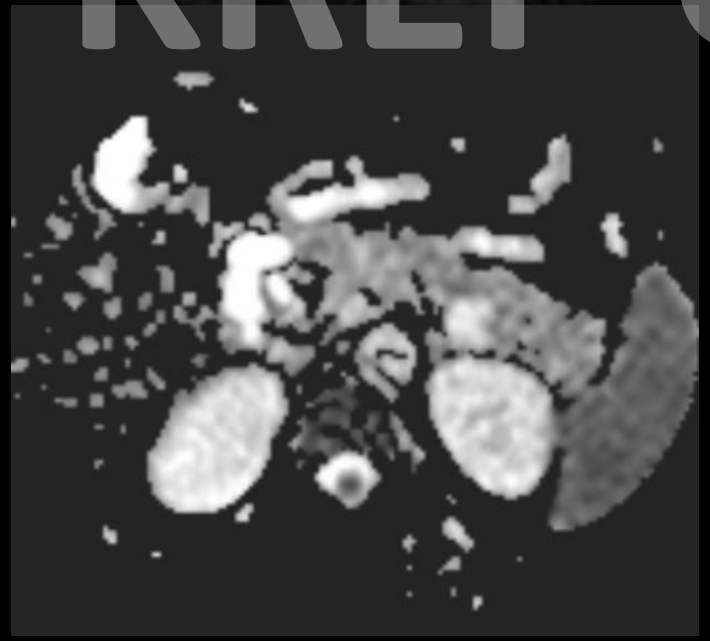
2025

KARNATAKA RADIOLOGY EDUCATION PROGRAM

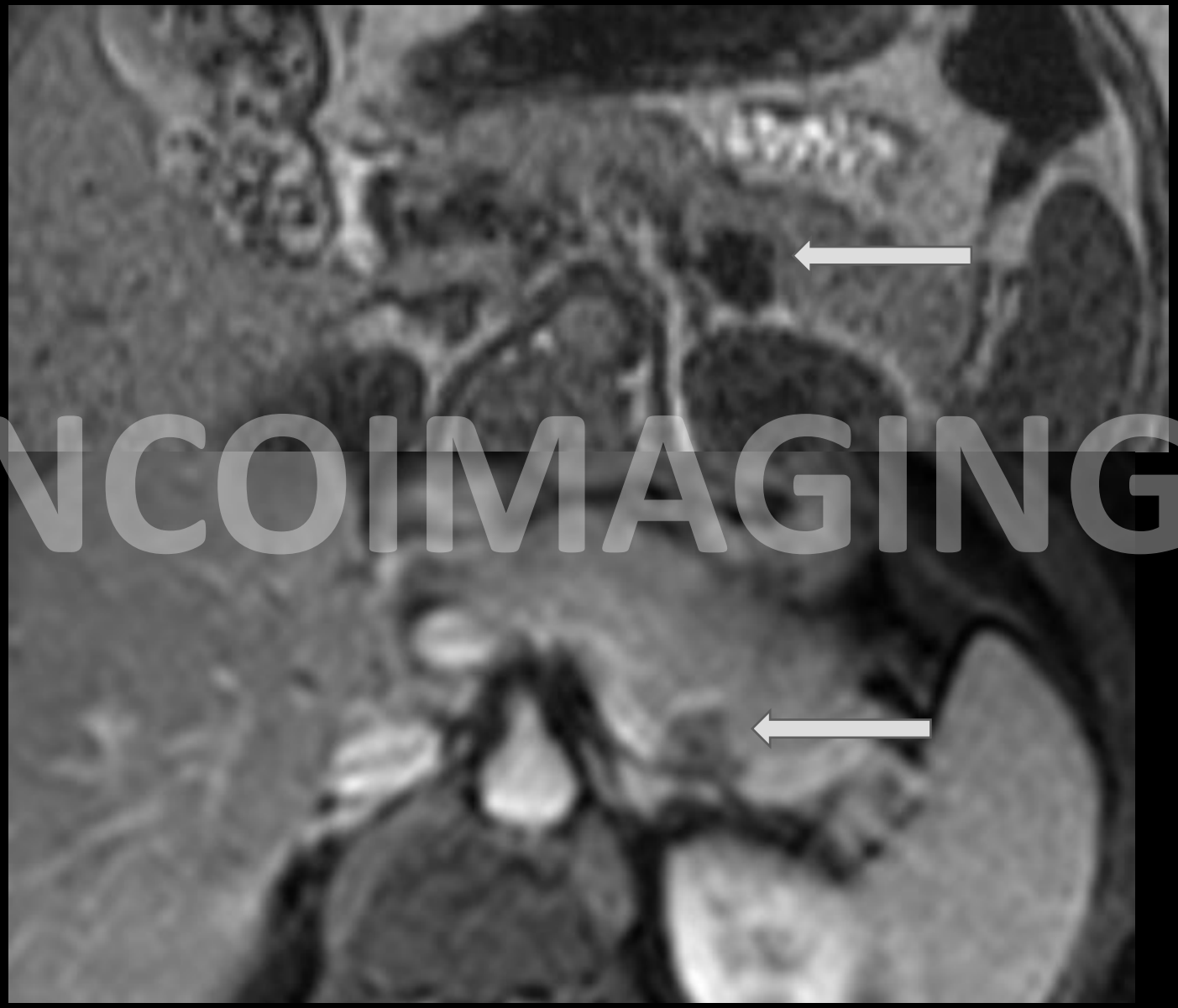


T2 Axial and Coronal images

DWI/ADC

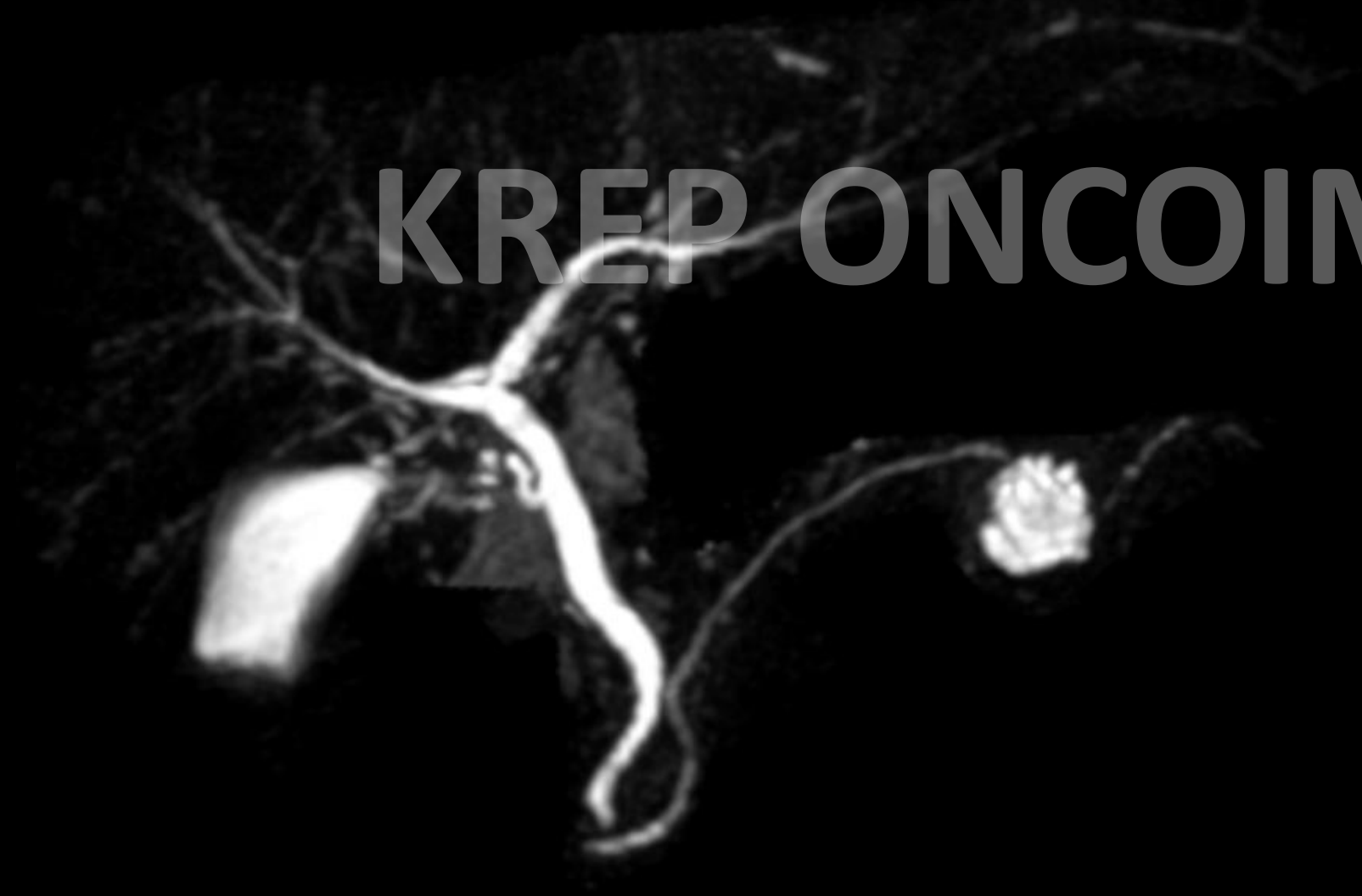


T1 Axial non-contrast Image

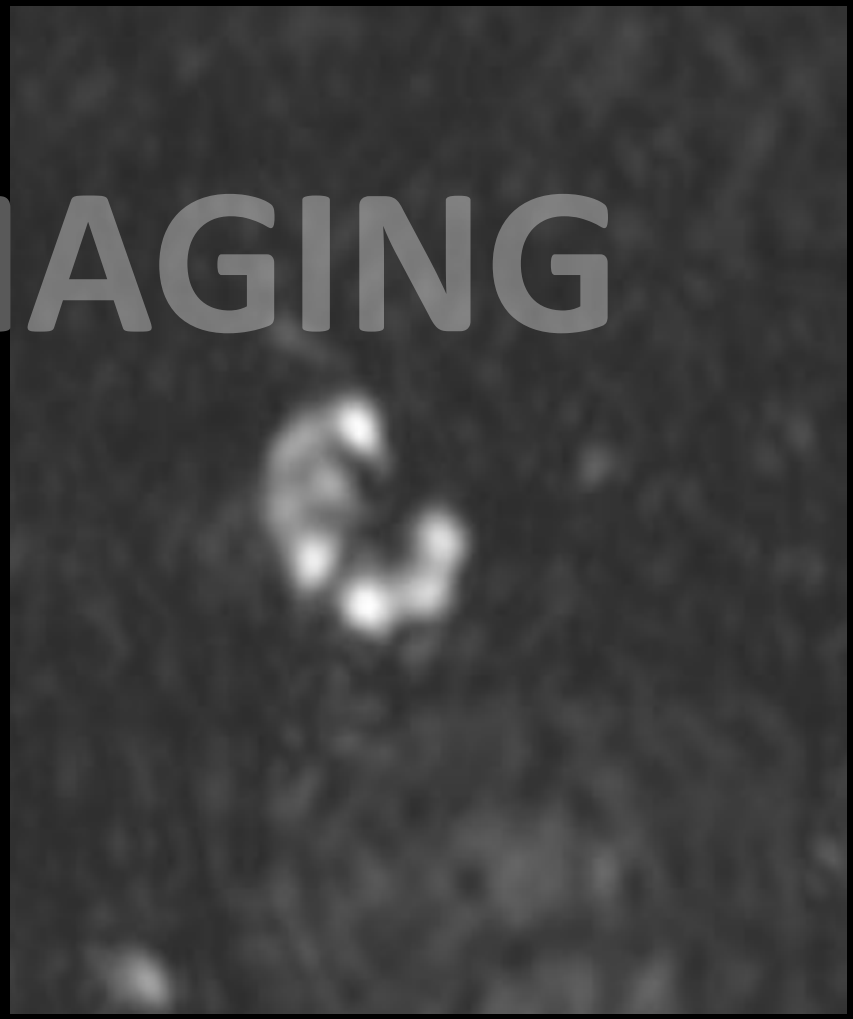


T1 Fat sat post contrast

3D MRCP- MIP Image



MRCP Axial reformat



Age/Sex: 48 years/ female

MRI :

- A well-defined altered signal intensity lesion with lobulated outline is seen in the body of the pancreas showing T2 hyperintense and T1 hypointense signal. No T1 heterogeneous / hyperintense component. No nodular soft tissue component / diffusion restriction / hemorrhage.
- The lesion is in close relation to the main pancreatic duct, however no obvious communication noted with the pancreatic duct.
- There is suggestion of T2 hypointense stellate appearing scar with few microcysts within the lesion (microcysts are better seen in the MRCP image).
- Peripheral rim enhancement noted on post contrast study.

These imaging features are suggestive of a cystic pancreatic neoplasm – likely serous cystadenoma.

1. Pathology & Epidemiology

- Serous cystadenoma (SCN) is a benign epithelial neoplasm, accounting for 1–2% of pancreatic tumors, most frequently seen in women over 60 years and arising predominantly in the body or tail.
- Most are sporadic; a minority can be associated with Von Hippel–Lindau disease.

2. Macroscopic & Microscopic Features

- Macroscopically, shows classic “honeycomb” (microcystic) pattern, sometimes with a central stellate scar and occasional dystrophic calcification.
- Microscopically, lined by cuboidal/glycogen-rich epithelium, clear cytoplasm, sparse mitoses, and absence of mucin production.

3. Imaging Hallmarks

- CT/MRI: Well-circumscribed, lobulated mass with multiple small cysts (“honeycomb”) and possible central scar; microcystic type is most common.
- T2-weighted MRI reveals marked hyperintensity; the central scar often appears T2 hypointense. Peripheral or internal calcification may be present.

4. Variant Patterns and Diagnostic Pitfalls

- Oligocystic (few, large cysts) or unilocular forms can mimic mucinous neoplasms.
- Peripheral rim enhancement may be seen; lack of communication with the pancreatic duct helps distinguish from IPMN.

5. Clinical Presentation & Symptoms

- Most SCNs are asymptomatic and discovered incidentally; symptoms (pain, mass effect, obstructive jaundice) arise mainly in giant lesions (>4 cm).
- Palpable mass or compressive symptoms are rare and indicate large or atypical tumors.

6. Staging & Risk of Malignancy

- SCN is overwhelmingly benign, but rare malignant transformation to serous cystadenocarcinoma has been reported, evidenced by local invasion or metastasis.
- Size >10 cm, local invasion, vascular encasement, and metastasis are adverse features; formal staging is rarely needed unless malignancy suspected.

7. Management & Oncologic Implications

- Small, asymptomatic lesions are managed conservatively with surveillance.
- Surgical resection (typically distal pancreatectomy or enucleation) is reserved for symptomatic, growing, or indeterminate cases. Prognosis is excellent; recurrence is rare after complete resection.

8. Oncoradiologic Reporting Must Address

- Lesion size, location, architecture (microcystic vs oligocystic/unilocular), presence/extent of scar or calcification.
- Relationship to the pancreatic duct, involvement of vessels/organs, and features suggestive of malignancy. Follow-up recommendations should reflect size, growth, and patient's symptoms.

Contributors

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