Benefits of Using Pancreatic Cyst Fluid Glucose in Community-Based Setting to Evaluate Pancreatic Cystic lesions

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Introduction

In the evaluation of incidental asymptomatic pancreatic cystic lesions (PCLs), it is necessary to identify mucinous cysts due to their risk for malignant transformation.[1] Current guidelines recommend obtaining cyst fluid carcinoembryonic antigen (f-CEA), but this test has limitations.[2] Recently, a low cyst fluid glucose level (f-Glu) < 50 mg/dl has emerged as an alternative to f-CEA.[3,4]

Aim

To incorporate f-Glu when evaluating PCLs in a community-based endoscopic ultrasound (EUS) practice.

Methods and Materials

Patients from 11/2021-4/2022 with a PCL were retrospectively analyzed. Demographics, radiology & EUS findings, & test results were collected. f-CEA and f-Glu were ordered on each patient, with priority placed on f-CEA, followed by f-Glu.

Results

13 patients (7 M:6 F, median age 74) with PCLs were analyzed. The median cyst size was 27 mm (16.8-77 mm), and the median fluid volume obtained was 1.5 mL (0-170 mL). In our patients, both f-CEA and f-Glu were available in 46% (6/13), only f-CEA in 2/13 (15%), and only f-Glu in 3/13 (23%). In 2 patients, f-CEA/f-Glu could not be obtained.

In 6 patients, when both f-CEA and f-Glu were available, there was 100% agreement between the two test results. In 5/13 cases, f-CEA could not be obtained. In 2 cases, f-Glu was the only test result that was obtained.

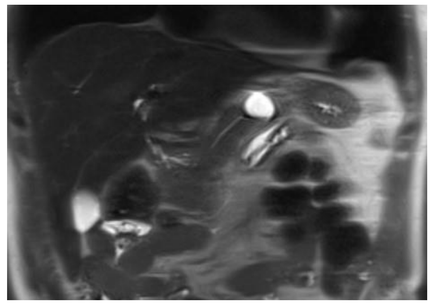

Figure 1. MRI Abdomen Pancreatic cyst.

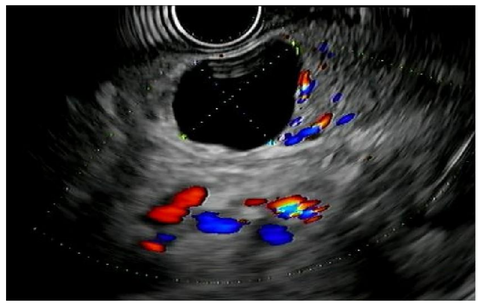

Figure 2. EUS image of pancreatic cyst

Table 1

Patient	Age	Sex	f-CEA	f-Glu	Cyst Size (mm)	Amt of Cyst Fluid (mL)	Cytology
1	78	M	N/A	127	27 x 21 x 23	N/A	no malignancy
2	82	M	N/A	<10	70 x 50	N/A	degenerated cells
3	74	F	15.5	N/A	19 x 9	1	N/A
4	79	M	N/A	N/A	38 x 32	N/A	mucin and cell atypia
5	58	M	107	20	26 x 25	4.5	inflammatory cells
6	81	F	N/A	N/A	33 x 23	N/A	Mucin and papillary cells w LGD
7	74	F	789	N/A	19 x 11	1.5	N/A
8	66	M	216	<10	21.6 x 16.8	3	no malignancy
9	55	F	29	19	58 x 65	5	no malignancy
10	84	F	N/A	<10	14.8 x 16.8	1	no malignancy
11	64	M	457	<10	22.5 x 20.4	2	fibrovascular tissue w/ scant fragments of reactive glandular tissue
12	65	F	88,809	<10	77 x 44	170	no malignancy
13	80	M	532	<10	50	7	no malignancy

Discussion

Since pancreatic f-Glu has emerged as an alternative to f-CEA,[3] we aimed to incorporate f-Glu in evaluating PCLs in our community-based EUS program. In our study, f-Glu did correlate with f-CEA results. Unfortunately, in a community hospital, f-CEA requires ≥3 mL for analysis. In contrast, f-Glu requires ≥1 mL, and is readily available, making it an ideal alternative to f-CEA. In our series, the median fluid volume aspirated was 1.5 mL, and in 38% of cases, f-CEA could not be obtained. In 69% of cases, f-Glu was measured despite low fluid volume (<3 mL), making it advantageous in the evaluation of a PCL. In this limited series, f-Glu was a more favorable alternative to f-CEA in a community-based EUS program.

Conclusion

Pancreatic cyst fluid glucose (f-Glu) can be used as a more favorable alternative to cyst fluid CEA (f-CEA) in a community-based EUS program.

References

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