

## Introduction

- Pancreatic cancer continues to carry a dismal prognosis due to the high failure rates of conventional first line treatments.
- Nearly all patients with pancreatic masses undergo endoscopic ultrasound (EUS) fine needle aspiration or biopsy as the initial diagnostic procedure.
- We assess the yield of EUS biopsies in obtaining samples for molecular profiling of pancreatic tumors and investigate the endoscopic factors associated with successful EUS sampling.

## Methods

- We performed a search for all EUS-guided needle biopsies done for the indication of suspected pancreatic mass on imaging between January 2017 and January 2022 at a large quaternary care academic medical center.
- We limited our cases to those diagnosed with pancreatic adenocarcinoma and had EUS samples sent for molecular profiling.
- Differences in tumor size, number of needle passes during sampling, and needle gauge size between successful and non-successful sampling groups were determined by Mann-Whitney U Test using SPSS Statistics.

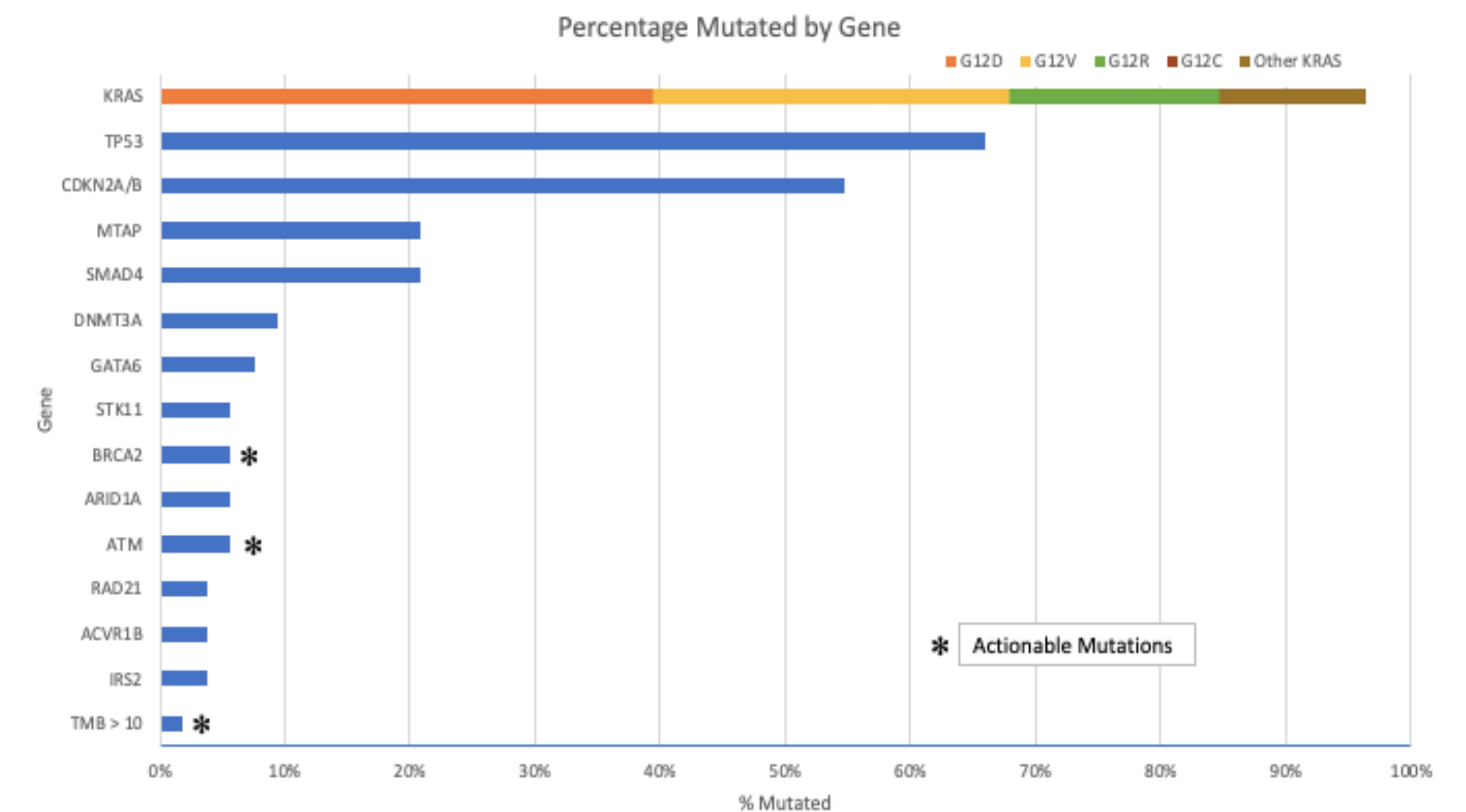
## Results

- We identified 309 consecutive cases where the diagnosis of pancreatic adenocarcinoma was established by EUS.
- Fifty-nine EUS biopsies were sent for molecular profiling and of these, fifty-three were sufficient for molecular testing (89.5% success rate).
- The yield of actionable mutations was 14% in the 53 patients who were successfully tested.
- No investigated procedural factors were associated with failure of testing.

Table 1: Procedural factors in EUS sampling of pancreatic tumors

Procedural Factor	Successful Sampling Cohort	Unsuccessful Sampling Cohort	P-value
Tumor Size (mean in mm)	31.3	28.0	NS
Needle Passes (mean)	3.4	2.7	NS
Needle Gauge Size (mean)	22.5	22.5	NS

Figure 1: Percentage frequency the most common genes were mutated or tumor mutation burden was greater than 10 muts/mb in study cohort.



## Conclusions

- Yield of somatic mutation testing from standard of care EUS biopsies is high.
- Furthermore, we found that 14% of patients had actionable mutations.
- As the number of available targeted therapies increase, we expect the impact of EUS biopsy in guiding early initiation of these therapies to grow.