Pancreatic adenocarcinoma with liver metastases

Metastatic - BRCA/PALB2 work-up - combined longitudinal diagnostics

MUSTER-04 - 64 years - female - ECOG 1

SYNTHETIC SAMPLE CASE - for platform demonstration only. No real person, no documented treatment success and no individual treatment instruction.

Executive Summary

This sample report demonstrates how Medical Evidence AI converts clinical baseline information, pathology, molecular biomarkers, organ function and supportive immune/tumour-dynamics data into a structured evidence discussion. Validated treatment-relevant findings are explicitly separated from exploratory additional findings.

Core clinical question

Which molecular tests and standard systemic options are relevant, and how should imaging, CA19-9, immune status and CTC trends be weighted?

Clinical Review Required

Medical Evidence AI provides structured evidence synthesis as a basis for professional discussion. This sample report is not a diagnosis, prescription or individual treatment instruction. Treatment decisions remain with the qualified treating team/tumour board. Current approvals, guidelines and trial availability must be checked for every live case.

1. Clinical course & structured diagnostics

Pancreatic adenocarcinoma with liver metastases

Clinical course

• Ductal pancreatic adenocarcinoma with synchronous liver metastases.

• First-line systemic therapy has been started.

• Clinically stable after eight weeks; first radiologic response assessment planned.

Diagnostics & biomarkers

• Germline and tumour testing for BRCA1/2/PALB2; MSI/MMR, NTRK and broad NGS.

• CA19-9 interpreted together with cholestasis, Lewis-antigen context and imaging.

• CBC, bilirubin, AST/ALT, creatinine, albumin and nutritional status.

• Synthetic TBNK trajectory: baseline CD3 1,020/µL, NK 420/µL; month 3 CD3 1,180/µL, NK 390/µL - no validated predictive threshold.

• Synthetic CTC series: baseline 50 EpCAM-positive cells/mL; month 3: 28/mL; month 6: 16/mL, documented alongside radiologic tumour burden.

Why these diagnostics matter

The purpose is not to collect the maximum number of laboratory values. The report separates findings that can select an established treatment, findings that affect safety or dosing, and measurements that provide supportive or exploratory longitudinal context. This distinction reduces the risk that immune-cell counts or CTC measurements are treated as stand-alone treatment indications.

2. Evidence Interpretation

• Performance status, organ function and neuropathy risk influence chemotherapy selection.

• BRCA/PALB2 and homologous-recombination context can materially alter treatment and maintenance discussions.

• CA19-9 and CTC trends cannot replace radiologic and clinical response assessment.

• Exploratory immune/CTC changes should not be interpreted as proof of treatment effect.

Options for professional discussion

• Guideline-supported multi-agent first-line chemotherapy according to fitness and prior treatment.

• Platinum sensitivity and PARP-maintenance discussion when a qualifying germline BRCA context and treatment response are present.

• Molecularly targeted or immunotherapy options only when a validated rare biomarker is documented.

• Clinical-trial screening throughout the disease course.

Interpretation limits

Temporal association between treatment, immune status, CTC trajectory and imaging does not establish causality. In a live report, assay method, reference ranges, treatment timing, imaging and clinical course must be assessed together. No option is automatically ranked as the correct treatment.

3. Evidence Matches - study comparison

Medical Evidence AI does not present study titles alone. The relevant elements are population, intervention, clinically relevant outcome, match to the case and limitations of transferability.

NAPOLI-3

Population / evidence: Treatment-naive metastatic pancreatic adenocarcinoma; modern multi-agent first-line comparison.

Match to this sample case: Relevant to a fit ECOG 1 first-line setting.

Limitation: Suitability depends on organ function, neuropathy, comorbidity and the regimen already started.

POLO

Population / evidence: Metastatic pancreatic cancer with germline BRCA mutation and disease control after platinum chemotherapy.

Match to this sample case: Relevant only if qualifying germline BRCA status and treatment course match.

Limitation: Not transferable to BRCA-wildtype or unselected patients.

Precision-oncology biomarker guidance

Population / evidence: Supports germline/somatic testing for actionable subsets including BRCA/PALB2 and rare MSI-high/NTRK contexts.

Match to this sample case: Directly relevant because molecular work-up is incomplete.

Limitation: Rare targets must be confirmed with validated assays and current labels.

4. Applicability & evidence gaps

Evidence gaps

• Final germline and tumour BRCA1/2/PALB2 results.

• Complete broad NGS and MSI/MMR documentation.

• Exact first-line regimen, dose intensity and toxicity.

• First radiologic response assessment and complete CA19-9 context.

Exploratory / immunological context

A dendritic-cell approach may be discussed only as experimental/non-standard evidence context where relevant. Synthetic TBNK and CTC trajectories do not establish efficacy or an indication and must not be used to infer causality.

The report prioritises unresolved issues that may change the treatment sequence before purely exploratory additional testing. A live analysis would additionally verify the current guideline version, regional approval status and active clinical trials at the time of assessment.

5. Tumour-board questions, sources & final assessment

Questions for the treating team / tumour board

• Is molecular testing complete enough to identify a validated targeted option?

• Does the current first-line regimen match fitness, organ function and goals?

• How do imaging, symptoms and CA19-9 compare at the same time points?

• Are any experimental approaches best pursued within a regulated clinical trial?

Selected evidence anchors

• Current pancreatic-cancer guidelines and regional regulatory information.

• NAPOLI-3 and POLO as sequence- and biomarker-specific evidence anchors.

• Original germline/somatic reports and current imaging for live-case interpretation.

Final assessment

The value of the report lies not in an automated treatment recommendation, but in a transparent connection between diagnostics, patient context and evidence. It shows where an option matches well, where important differences from the study population remain, and which information is still required before a medical decision.

Clinical Review Required

Medical Evidence AI provides evidence synthesis and decision support. It does not replace diagnosis, prescribing, multidisciplinary review or treatment decisions by qualified medical professionals.