



# Gastroenterología y Hepatología

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## REVIEW

## Circulating tumor DNA tracking in patients with pancreatic cancer using next-generation sequencing

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### Abstract

**Background:** Pancreatic cancer remains one of the most devastating malignancies due to the absence of techniques for early diagnosis and the lack of target therapeutic options for advanced disease. Next Generation Sequencing (NGS) generates high throughput and valuable genetic information when evaluating circulating tumor DNA (ctDNA); however clinical utility of liquid biopsy in pancreatic cancer has not been demonstrated yet.

The aim of this study was to evaluate whether results from a Next Generation Sequencing panel on plasma samples from pancreatic cancer patients could have a clinical significance.

**Methods:** From December 2016 to January 2020, plasma samples from 27 patients with pancreatic ductal adenocarcinoma at two different tertiary Spanish Hospitals underwent ctDNA testing using a commercial NGS panel of 65 genes. Clinical data were available for these patients. Varsome Clinical software was used to analyse NGS data and establish pathogenicity.

**Results:** Evaluable NGS results were obtained in 18 out of the 27 plasma samples. Somatic pathogenic mutations were found mainly in KRAS, BRCA2, FLT3 and HNF1A, genes. Pathogenic mutations were detected in 50% of plasma samples from patient diagnosed at stages III-IV samples. FLT3 mutations were observed in 22.22% of samples which constitute a novel result in the field.

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