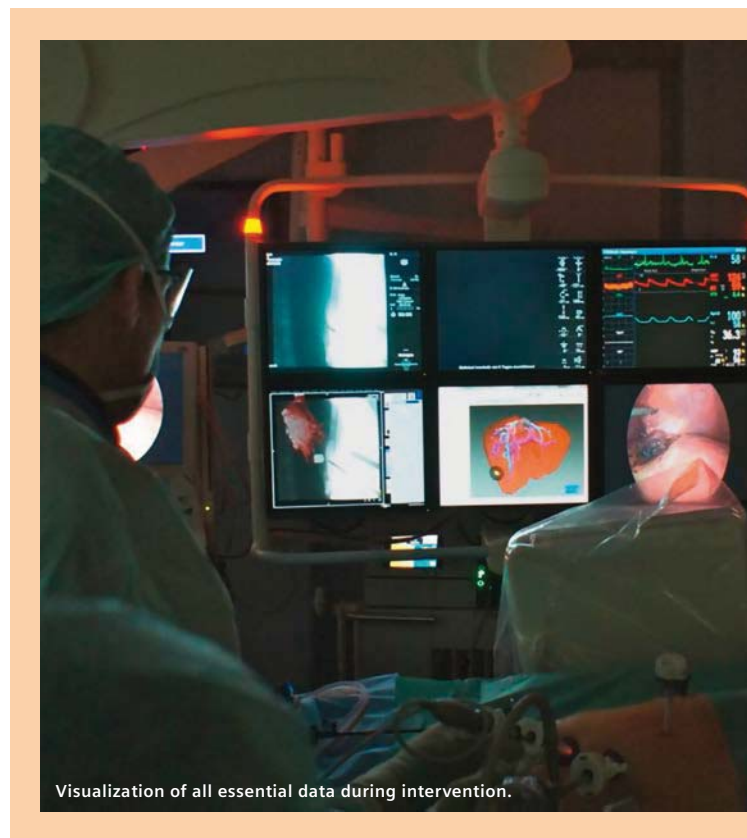
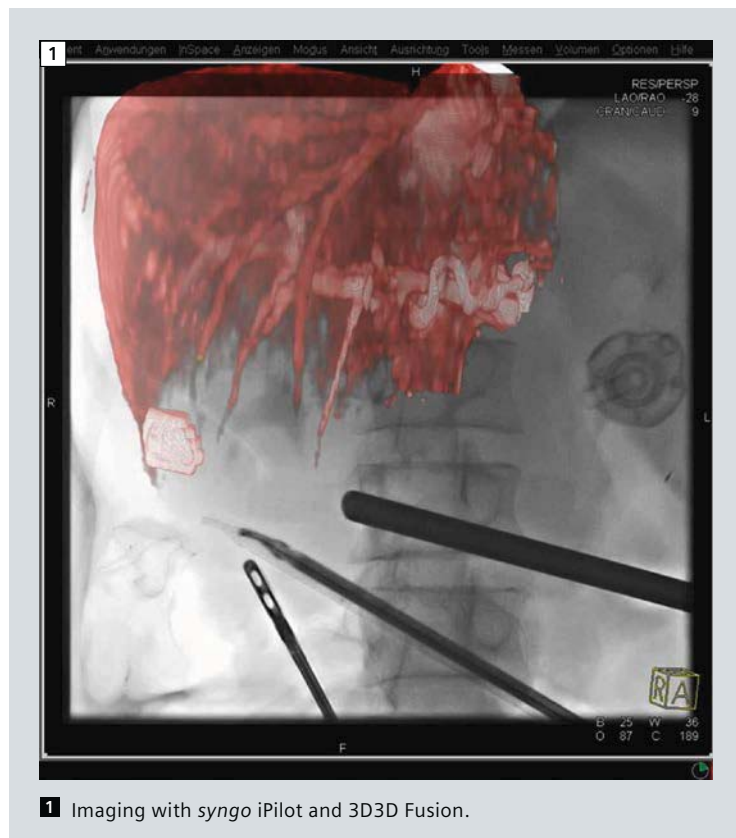


# Minimally Invasive Liver Resection Supported by *syngo* DynaCT

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## Patient history

The 62-year-old male patient suffered from hepatocellular cancer due to a chronic hepatitis C.

## Diagnosis

Hepatocellular carcinoma located in liver segment 6.

## Treatment

The minimally invasive approach was planned due to the favorable localization of the tumor. A pre-operatively acquired MRI scan was segmented for pre-operative planning with the help of the DKFZ in Heidelberg. The segmentation helped to segment the liver from the rest of the abdomen

and to make vessels and the tumor visible within the organ. Surgery started with placing 4 ports and an insufflation of CO<sub>2</sub>. The abdomen was prepared for optimal access to the tumor and therefore the position of the patient was changed to reverse Trendelenburg (10°) and tilt to the left (15°). Then a *syngo* DynaCT was performed and the 3D volume was automatically registered with the pre-operative MRI volume. The fusion of both volumes could be visualized in the 2D fluoroscopic image to get a real-time update of the current situation. This fluoroscopic control with *syngo* iPilot, 3D/3D

Fusion, proved helpful in navigation the instruments very precisely (fig. 1). The cancerous tissue was removed and surgery was finished successfully without any adverse events.

## Comments

It was the first case in liver surgery supported by *syngo* DynaCT and the future advancement of the technologies involved will be very interesting and are definitely being planned.

## Contact

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Live monitoring enables precise navigation of instruments.