

# **A critical appraisal of liver growth reporting in ALPPS**

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## **Objectives:**

The aim of this study is to critically evaluate and improve liver growth reporting in ALPPS.

## **Background:**

Following the first reports of exceptional liver growth in ALPPS, a large variety of measures quantifying liver growth have been developed. The abundance of these growth measures, however, makes a comparison between centers difficult. Experiences from our ALPPS cohort hint at a particularly high variance of liver growth reporting per time. In contrast to common assumptions, liver growth after stage 1 indicates a non-linear time pattern. Definitive time points of volumetry before stage 2 are therefore key making kinetic growth rates comparable.

## **Methods:**

Liver growth characteristics will be divided in two broad categories: Static and Dynamic liver growth parameters. Static liver growth parameters reflect absolute or relative liver volumes at stage 1 and 2 as well as their change. Dynamic liver growth parameters, also known as kinetic growth curve, include volume changes calculated per day or per week. The analysis will be performed in 2 steps:

- 1.) Identifying static and dynamic liver growth parameters of ALPPS in the literature
- 2.) Creating a liver growth curve depending on the time of volumetry after stage 1 using the International ALPPS Registry.

## **Overall Goal:**

To give recommendations how to report appropriately growth kinetic in ALPPS in order to provide comparability of results on hypertrophy among different studies.