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## Introduction:

The aim of this study was to evaluate fluid responsiveness preoperatively by Passive Leg Raising (PLR), and intraoperatively by mini-Fluid Challenge (mFC). Guidelines recommend 2-h fasting for clear liquids to ensure euvolemia before surgery. Few methods are available to assess fluid responsiveness in awake spontaneously breathing patients: PLR and mFC are among them. Fluid responders (FRs) are those who increase Stroke Volume ( $\Delta SV$ ) > 10% after PLR or mFC. The Starling<sup>TM</sup>SV monitor (Cheetah Medical, Baxter) identifies FRs thanks to bio-reactance technology.

## Methods:

Preoperative PLR test was performed to patients undergoing major surgery before the anesthesia induction. FRs received 250 ml of balanced crystalloid solution and fluid responsiveness was re-tested at the end of the bolus and again until a non-FR state was achieved. Baseline intraoperative fluid therapy was set at 5 mL/kg/h until the end of surgery. Hourly, mFCs with 100 ml of crystalloids balanced solutions were performed and FRs received the 250 ml-fluid bolus. Blood [Hb]-concentration was measured before surgery and hourly.

## Results:

Twenty-two patients were enrolled. Fifty% of the patients were FRs and average fasting time was 12(3.16)h in FRs and 13.8(4.35)h in non-FRs (Figure 1). After the first crystalloid bolus, 9(82%) FRs became non-FRs. Intraoperatively, 47 mFCs were performed in the first 3 hours and 9 FRs were found (19%). In all FRs, after the bolus, the mFC test was re-performed and no patient resulted to be FR. The [Hb] variation before and after 60 minutes from surgery start was 0.71(0.66)g/dL for FRs and 0.32(0.56)g/dL for non-FRs.

## Conclusion:

Preoperative fasting does not correlate with PLR test. After having tested for fluid responsiveness and corrected volemia, [Hb]-concentration can be used as a sensitive indicator of fluid expansion-restriction in non-bleeding patients. PLR and mFC tests, are easy, reliable and may be efficient tools to guide volume optimization during major surgery.

## Image :

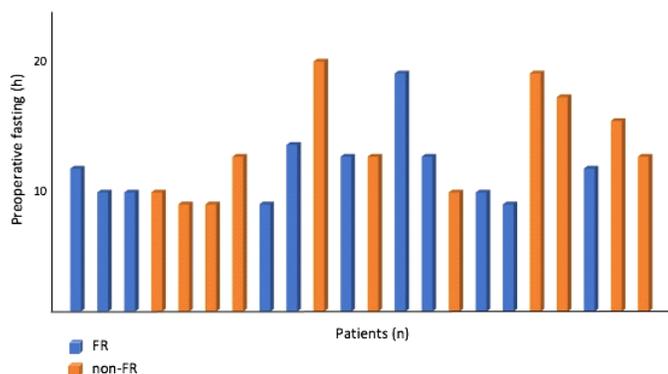


Fig. 1