

The impact of high-sensitive troponin levels during liver transplantation on postoperative course: preliminary results

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Background and Goal of study

Liver transplantation (LT) is associated with high rate of postoperative complications.

Although recent studies have demonstrated that an increase of perioperative biomarkers of myocardial injury such as **high-sensitivity troponin T (HS-TnT)** is related with poor postoperative outcome, there are no studies analyzing **intraoperative** values of such markers in population of liver transplant recipients.

The **goal of our study** was to investigate what is the impact of intraoperative elevation of TnT on early postoperative course after liver transplantation.

Materials and methods

- 184 adult patients undergoing LT
- Excluded: patients undergoing retransplantation and those with elevated basal troponins.

MONITORING:

- Haemodynamic measurements with PiCCO catheter.** (Pulsion Medical Systems SE)
- Analysis** - HS-TnT (Roche)

3 KEY MOMENTS: - hepatic dissection
- anhepatic phase
- after graft implantation

- HS-Tnt >42 ng/L → highly suggestive of myocardial injury

TWO GROUPS: $\left. \begin{array}{l} \rightarrow \text{HS-TnT} < 42 \\ \rightarrow \text{HS-TnT} > 42 \end{array} \right\} 60' \text{ after graft reperfusion}$

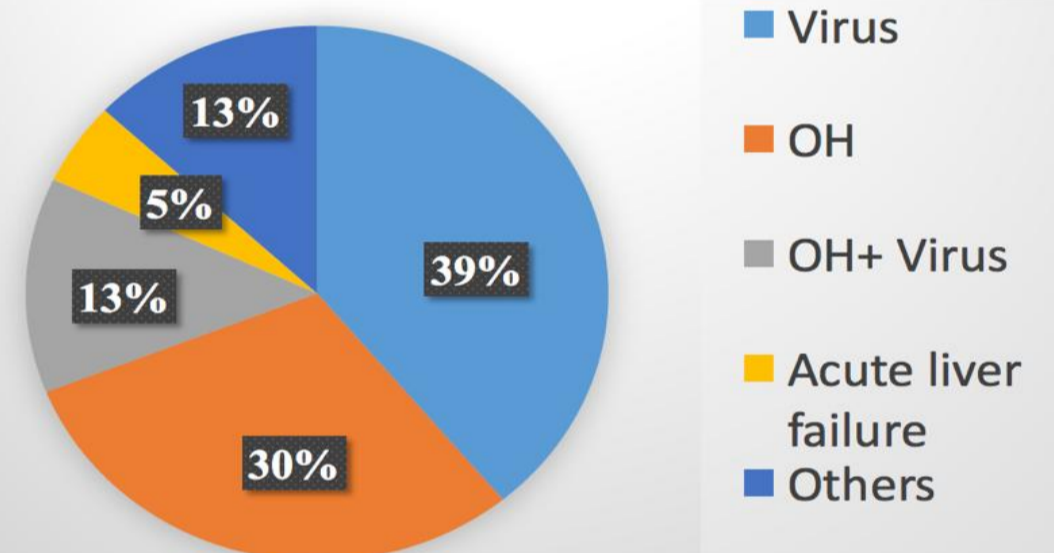
Statistical analysis: U- Mann-Whitney - Chi².

Men	79%
Women	21%

Child-Pugh	A	21%
	B	38,8%
	C	40,2%

Age (years)	53± 9
BMI (kg/m ²)	27± 4

Diagnosis



Results

33.8% patients → HS-Tnt > 42 ng/L at 60 minutes after graft reperfusion

Group HS-Tnt > 42 $\left\{ \begin{array}{l} \uparrow \text{mechanical ventilation-MV (hours)} \\ \uparrow \text{ICU stay (days)} \end{array} \right.$

Hs- Tnt (ng/L)	Mechanical ventilation (hours)	ICU stay (days)
> 42	32,6 (12,7 – 52,5)	4,4 (3,4 – 5,3)
< 42	18,7 (12,9 – 24,5)	3,5 (3,1 – 3,9)
	$p = 0.028$	$p = 0.036$

No clinical findings suggesting myocardial injury were found in the intraoperative and early postoperative course (Cardiac Index, CFI, and ECGs showed no significant changes).

Conclusions

1-Troponin elevation during liver transplantation predicts early complicated postoperative course (prolonged mechanical ventilation and ICU stay).

2- It seems to have prognostic value enabling prediction of clinical deterioration before other measurable derangements occur, and allows for earlier adaptation of anaesthetic management to patient individual requirements.