

Perioperative anaesthetic management of patients undergoing isolated lower limb perfusion



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BACKGROUND AND GOAL STUDY

The hyperthermic isolated limb perfusion (HILP) main indication is melanoma metastases of the limb. The isolated limb is exposed to high dosage of cytotoxic agents in hyperthermia through an extracorporeal circulation circuit. The intraoperative management of these patients is a challenge to the anaesthesiologist and it is not clearly established in the literature yet.

The objective of this study is to describe our anesthetic practice.

MATERIALS AND METHODS

Descriptive retrospective study, data collected from clinical records of all patients submitted to lower limb HILP between January 2015 and November 2017.

Variables analysed: demographic characteristics, anaesthetic technique, advanced hemodynamic monitoring, chemotherapy, perioperative fluid balance, intraoperative vasopressor needs; mean surgery duration, type of postoperative vigilance, mean internment duration.

Descriptive analysis: Microsoft Excel®.

RESULTS

DEMOGRAPHIC CHARACTERISTICS

Age	70 years [46 – 85]
Sex (F/M)	31/9
ASA II/III	21/19

ANAESTHETIC TECHNIQUE

BGA	32 (80%)
BGA + BQL Type 1	8 (20%)
Desflurane	20 (50%)
Sevoflurane	20 (50%)
Dose Fentanyl	325 ug [100 – 750]
Duration of anaesthesia	383 min [280 – 820]

HEMODYNAMIC MONITORING

Invasive Arterial Pressure	40
Vigileo®	23 (58%)
CVP	15 (38%)
Vigileo® + CVP	6 (15%)

INTRAOPERATIVE CHEMOTHERAPY

TNF α + Melphalan	35 (88%)
Melphalan	5 (12%)

PERIOPERATIVE FLUID BALANCE

	N	Mean
Crystalloids	40	3240ml
Colloids (Gelatine)	7	500ml
Blood transfusion	39	3 UGR
Blood loss	40	1134 ml
Urinary output	40	772 ml

INTRAOPERATIVE VASOPRESSORS

Ephedrine	11 (28%)
Phenylephrine	3 (8%)
Dopamine	1 (2%)

POSOPERATIVE

Intermediate Care Unit	4 (10%)
Intensive Care Unit	36 (90%)
Hospital stay (mean)	16 days [6 – 36]

CONCLUSION

HILP is a complex surgery, which demands teamwork between anaesthetists, surgeon, nurses and perfusionist in order to prevent complications associated to this procedure. Fluid exchange and cytokine release are associated with important hemodynamic variations, which makes hemodynamic monitoring a primary concern in the anesthetic management of these patients. Complications in the postoperative period of chemotherapy condition the patient's discharge.

BIBLIOGRAPHY

(1) BMC Anesthesiology 2013, 13:15