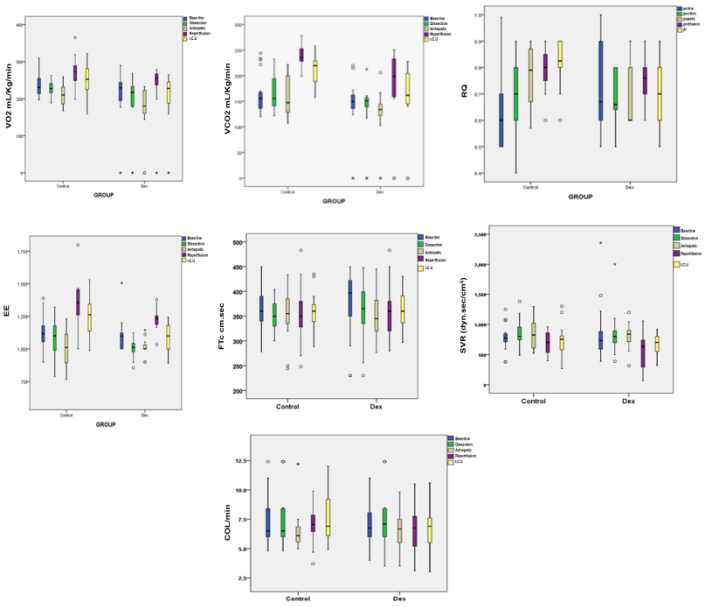
Perioperative Effect of Continuous Infusion of Dexmedetomedine On Indirect Gas Calorimetry Monitoring In Liver Transplantation.

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Abstract (300 word limit)

Statement of the Problem: Dexmedetomidine; a novel selective α2 anesthetic agent Currently used in hepatic patients. may provide more hemodynamic stability. It decreases oxygen consumption(VO2),carbon dioxide production(VCO2) and energy expenditure(EE).As The increase in whole body oxygen consumption occurs after reperfusion may reflect oxygen uptake by the graft. We suggest that we may benefit from suppressing effect of DEX on whole metabolism may be reflected in graft metabolism specially in critical phases (anhepatic,reperfusion. The purpose: to study the Effect of continuous infusion of Dexamedetomedine on preoperative indirect gas calorimetry monitoring on recipients of liver transplantation. Methodology & Theoretical Orientation: After ethical committee approval, Pan African Clinical Trial Registry (PACTR 201402000776978),and consent approval. 40 patients were categorized to: Dex(n=20) beginning at 0.5 micg/kg/h (0.2-0.7μ g/kg/h) and placebo C(n=20) after induction till extubation. Anesthesia was guided by Entropy (40-60) with Desflurane. Indirect calorimetry parameters (VO2,VCO2,EE,RQ),arterial blood gasses ,hemodynamics were taken at base line, dissection ,anhepatic, reperfusion and 3 hours after end of operation. Trans esophageal Doppler (TED) was used for fluid optimization. Findings: Dexmedetomidine decreases indirect calorimetry readings in general in comparison to control group specially at reperfusion and extending for hours after that ,avoiding bolus and infusion at 0.5 may not affect hemodynamic stability, non-significant difference between groups regarding fluids ,inotropic support and I.C.U stay. Conclusion & Significance: Dexmedetomidine has a depressing effect on indirect calorimetry with no major adverse effects on hemodynamics. This may be used as a tool for protection from reperfusion injury.



Recent Publications

1. Afonso, J. and F. Reis, Dexmedetomidine: current role in anesthesia and intensive care. Rev Bras Anestesiol, 2012. 62(1): p. 118-33.
2. Aiwei Li, V.M.Y.Y., Sophie Goulay-Dufay & Philip Chi Lip Kwok, Pharmacokinetics and pharmacodynamics of dexmedetomidine. Drug Development and Industrial Pharmacy 2016. 42: p. 1917-1927.
3. Fayed NA, Sayed EI, Saleh SM, Ehsan NA, Elfert AY. Effect of dexmedetomidine on hepatic ischemia–reperfusion injury in the setting of adult living donor liver transplantation. Clin Transplant 2016: 30: 470–482 DOI: 10.1111/ctr.12713
4. Kaur, M. and P.M. Singh, Current role of dexmedetomidine in clinical anesthesia and intensive care. Anesth Essays Res, 2011. 5(2): p. 128-33.
5. Sara A., Azza M., Wafaa M. et al.,The Role of Dexmedetomidine in Decreasing Acute Kidney Injury in Children with Acyanotic Heart Disease Undergoing Total Correction by A New Urinary Biomarker Kidney Injury Molecule-1. Med. J. Cairo Univ, 2016. 84: p. 1-6.



Nahla gaballa assistant lecturer of anesthesia has her by working in national liver institute hospital for 10 years, attending 200 cases of living donor transplant ,interested in pain in cirrhotic patients, have the desire to add a smile and quality of life of to chronic patients and by the support of the staff and co-operation of patients the idea came ;to observe the drug effect on metabolic monitor in stages of transplant as a tool for protection of reperfusion injury .The foundation is following the ministry of higher education with limited governmental support and no external fund.

Notes/Comments: