Introduction

Liver transplantation is now a routine procedure performed in numerous medical centers throughout the world. Currently, about 250 liver transplants are performed in the United States every month. The introduction of the University of Wisconsin preservation solution has allowed ischemic times in excess of 12 hours without detriment in outcome, permitting the recipient procedure to be done on a semi-elective basis at a reasonable time of day, reducing the fatigue factor on members of the team. This plus numerous other advances has shortened the procedure time to under six hours and minimized utilization of blood products. ***(Michael A.E. Ramsay,2000).***

Liver transplantation is usually performed in patients with end-stage liver disease who begin to experience life-threatening complications. The most common indications in adults are post necrotic cirrhosis, primary billiard cirrhosis, and scalloping cholangitis, and less commonly primary malignant tumors in the liver ***(Morgan et al.,2002)***

Preoperative assessment of the recipient's medical condition usually takes place shortly after the diagnosis of liver disease has been made.Patiens with liver dysfunction undergo progressive deterioration affecting all organ systems to some degree, consequently the assessment occurs at least in part, on two separate occasions. The first occurs when patient are initially evaluated for potential transplantation. The second assessment takes place immediately before transplantation***.(Amand et al.,1999).***

Once a donor has located and a decision to proceed with liver

transplantation has occurred, patient preparation begins immediately. The patient is transferred to the intensive care unit and preoperative laboratory studies are updated***(Gelman and Kang 1997).***

The operation is considered in three phases. The preanhepatic phase is when the liver is mobilized, the anhepatic phase when the liver is removed, often accompanied by veno-venous bypass, and the third or neohepatic phase is when the new liver graft is reperfused and the operation completed. Each phase requires careful consideration by the anesthesiologist. . ***(Michael A.E. Ramsay,2000).***

Patient with end-stage liver disease have numerous reasons for delayed gastric emptying.Therefor,aspiration precautions are mandatory and induction should proceed by either a rapid sequence technique or awake intubation in patient with homodynamic instability or significant hypovolemia***.(Leonard and Susan,2003).***

Fentanyl is usually administered first to help reduce the response to intubation.Sodium thiopental followed by succinylcholine is almost always well tolerated with minimal homodynamic changes. If homodynamic instability is anticipated,ketamine can be used.(Amand et al., 1999).

Anesthesia is maintained with an inhalation agent and narcotics***.(kang,1989).***Drugs that do not compromise splanchnic blood flow(e.g. opioids,isoflurane,desflurane and probably others) are typically used to maintain anesthesia***.(Firestone et al,2000).***

The procedure requires profound, long-lasting muscle

relaxant,pancronium provides excellent results. The use of vecronium or atracurium entails frequent dosing and significant expense, although both agents have been used safely.(Freeman et al.,1989)

Most patients remain intubated and mechanically ventilated in the ICU.Recently, interest in "fast tracking" liver transplant patients has increased efforts at early tracheal extubation,and 20% of patients may be tracheally extubated immediately at the end of surgery***.(Firestone et al.,2000).***

Postoperative pain can be significant after liver transplantation. Narcotics may interfere with the neurological assessment of the patient, and altered drug metabolism may prolong the elimination of the drug., therefore, morphine sulfate is carefully titrated against effect, using minimal incremental doses.***(Kang and Gelman,1997).***