

Research Article

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Corresponding Author:

*** Dr. Supriya Sharma,**
M.S., D.N.B.,
Assistant Professor,
Surgical Gastroenterology,
Sanjay Gandhi Post Graduate
Institute of Medical Sciences,
Lucknow, Uttar Pradesh,
India.



Outcome of Liver Transplantation in Indian Patients

Supriya Sharma*, Gaurav Pandey

ABSTRACT

The liver is self-regenerative organ. Liver can regenerate in weeks or month to its original volume. Even a large part of liver can be removed from donor then remaining part of liver is sufficient to perform the metabolic need of the patients. Therefore, a healthy person can donate part of his/her liver for LT. In India many children's need the Liver transplant were referred are very late stage. After that also the socio economic condition and lack of donor are the two important factors in the transplantation.

The study had aim to focus on the background of liver transplant in India. Also the critical observation after the liver transplantation is reported. The observation of the children's liver transplant observed are the bile leak, acute rejection, venos thrombosis, hypertension and bacterial sepsis.

Key-words: Liver transplantation, Indian patient, paediatrics. Etc.

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INTRODUCTION [1-2]:-

The liver is the body's largest internal organ, weighing about 3 pounds in adults. It is located below the diaphragm on the right side of the abdomen.

The liver performs many complex functions in the body, including :

- Makes most proteins needed by the body
- Metabolizes, or breaks down, nutrients from food to make energy, when needed
- Prevents shortages of nutrients by storing certain vitamins, minerals, and sugar
- Makes bile, a compound needed to digest fat and to absorb vitamins A, D, E, and K
- Makes most of the substances that regulate blood clotting
- Helps the body fight infection by removing bacteria from the blood
- Removes potentially toxic byproducts of certain medication

Liver transplant is surgery to replace a diseased liver with a healthy liver.

Research into the possibility of liver transplantation (LT) started before the 1960s with the pivotal baseline work of Thomas Starzl in Chicago and Boston, where the initial LT techniques were researched in dogs. Starzl attempted the first human LT in 1963 in Denver, but a successful LT was not achieved until 1967.

In 1970, with an immunosuppressive regimen largely based on steroids and azathioprine, survival rates were dismal—approximately 15% at 1-year follow-up. LT did not become a clinical reality until the early 1980s, after the discovery of cyclosporine, which led to improvements in rejection rates.

The good outcome of the LT has come in to picture and it is extended to the conditions where the damage to organs is prevented. The such conditions includes the Crigler Najjar Syndrome, hyperoxaluria and hypercholesterolemia. In the developed countries the upto 2 transplant per million are estimated as per the data. So from this data in India there is need of the 2500 transplants in children per year. In the Hospital in North India 30% of children with liver diseases are rererred for the LT due to the condition [3]. In November 1998, the first successful LT in India was performed in an 18-month-old child with biliary atresia [4]. The child's father became the first living related donor in India. This child remains well 15 years post LT. The need for developing a LT program in India has been debated for long [3,5].

While the first successful LT provided the impetus to establish transplantation in India, the first few years posed several challenges [6]. Many children who needed a transplant were often referred late, as there were very few guidelines on when to refer a patient to a specialized centre. The vast majority of children who needed a transplant came from a low socioeconomic status with resource constraints. In addition, a bias against the girl child and lack of cadaveric donor livers also limited the number of transplants performed. In the absence of cadaver donation, the only realistic option was developing a living related liver transplantation program. The last five years; however, have seen a dramatic growth in LT in India. There are six well-established pediatric liver transplant programs in the country. Two programs perform more than 30 transplants each year.

The total number of pediatric liver transplants performed in India has now exceeded 500. Pediatric patients constitute about 10% of the total liver transplants being performed at the two busiest programs. More than 95% of these transplants are living related. About 75% of LT are for cholestatic liver diseases, mainly biliary atresia [7]. The success of the liver transplant programs in the country can be attributed to various factors. With time, the quality of the intensive care provided to these patients has improved tremendously. This is in parallel to the general improvement in paediatric intensive care in the country. With increasing experience, the quality of post-transplant care has also become standardized. The armamentarium of drugs used for immunosuppression has improved with the newer drugs, which are less toxic and more effective. This has led to a better management of the immunosuppression and thus improved survival. With increasing experience, LT is now offered for complicated cases, for metabolic diseases and other rare disorders. In 2008, the first successful transplant in India for Crigler-Najjar syndrome was performed [8]. Excellent results have also been reported in younger children. Hundred percent survival for both graft and recipient in infants with weight less than 7.5 kgs was reported in 2010 [9]. The success of both pediatric liver and kidney transplant programs in the country has spurred the development of programs for combined liver and kidney transplants. Combined liver and kidney transplants are now being performed in increasing numbers. Another achievement from India is the world's youngest domino liver transplant [10]. A welcome development has been the increasing numbers of fathers willing to come forward as donors [11]. The availability of generic immunosuppressant drugs and consumables has greatly aided in bringing down costs.

MATERIALS AND METHODS [12]:-

The case record of the children's in North India hospitals were taken into the consideration for the study. The children's aged between the 1- 2 years undergone for the LT are considered. Before transplantation various tests were performed. These evaluations includes of blood cultures, viral serologies, ultrasound doppler, CT angiography of abdomen, cardiac evaluation, liver function tests, hemogram and serum biochemistry. A CT angiography of liver for volumetry was obtained to assess available graft size. All grafts were obtained from left lateral segments (II,III) of living related donors. All transplants at our hospital are approved by an authorization committee.

Postoperative immunosuppression was instituted with triple-drug therapy regime, which consisted of steroids, cyclosporin and mycophenolate. The postoperative observation were reported in the study.

RESULTS AND DISCUSSION:-

In one patient the bile leak also reported.

Acute rejection was identified in one patient on postoperative day. The diagnosis was confirmed with a liver biopsy. The patient required change of immunosuppressive therapy.

PV thrombosis was identified in two child. Immediate thrombectomy was performed but the patient had recurrent thrombosis and the graft was salvaged by a retrohepatic cavoportal anastomosis [13].

A non-anastomotic bile leak was observed in a patient. He responded successfully to a percutaneous drain insertion.

Severe hypertension was observed in one child, which responded to medical management.

Infectious complications were observed in five patients. These included blood stream sepsis, pneumonia and urinary tract infection. The organisms isolated included E.coli, Acinetobacter, Pseudomonas and Klebsiella in one child each. No fungal or viral infections were observed. No deaths were recorded.

CONCLUSION:-

From the literature it had found that infections are the primary complications in paediatric LT candidates, occurring in 60-70% of cases [14]. Significant bacterial infections that required therapy in the perioperative period despite antibacterial prophylaxis were seen in 4 patients. The post transplantation hospital stay was similar to other paediatric reports, where the mean stay varied from 17-24 days [15]. With improvement in perioperative care, the length of post LT hospital stay has been reduced over the last 10 years from a maximum of 68 days to 30 days.

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