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Islet transplantation: Input of biomaterials for islet survival

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Islet transplantation is a promising and minimally invasive therapy to restore normoglycaemia in brittle type 1 diabetic patients. However, the procedure is pancreas consuming since two to three pancreases are needed for a single patient. Therefore, efforts in research are focusing on improvement of islet survival during the process to decrease pancreas requirement. The stressful event of islet/exocrine separation deprives cells from extracellular matrix contact and oxygen supply which are two of the major reasons of the loss of approximately 60% of islets. Interest has risen over the last couple of years in biomaterials in islet transplantation regarding transplantation but also for the culture steps. The uses of biomaterials to create an artificial environment for islets post isolation increase their survival and improve transplantation outcome. In the same way, oxygen provider arouses enthusiasm of the community, and numerous teams tested the beneficial effect of oxygen supply from the pancreas retrieval to islet implantation step. The combination of both agents showed a real benefit for islet viability and function in vitro, providing more robust islet for sustaining the transplantation event. In vivo study highlighted several problems with transplantation sites, the liver. Indeed depending upon the material used, the inflammatory reaction is triggered. Therefore, alternative sites are investigated with in particular the omental pouch which gives the opportunity to keep matrices post implantation

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Efficacy of laparoscopically assisted high ligation of patent processus vaginalis in children

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Introduction: Laparoscopic hernia repairs have been proven to be efficient and safe for children, despite the slightly higher recurrence rate compared with the classic surgical repair. They have the advantage of easy and precise identification of the type of defect and its correction, both in ipsilateral and contralateral sides.

Objectives: The objectives of this study were to evaluate the efficacy, safety and outcome of the laparoscopically assisted piecemeal high ligation of a patent processus vaginalis (PPV) in children.

Methods: A total of 40 children were enrolled into this prospective study; they were aged ≥ 6 months and had an inguinal hernia. The peritoneal cavity, including the contralateral side, was inspected for the possibility of bilateral hernias using a 3 mm 30° telescope. Another 3 mm port was introduced through the same infra-umbilical incision. The hernia was manually reduced or with the aid of a working infra-umbilical grasper. A prolene or vicryl 2/0 or 3/0 suture on a curved semicircle round-bodied taper-ended 25-30 mm needle was introduced through a very small inguinal skin-crease incision. It was passed through the abdominal wall layers to the peritoneum and was manipulated by the laparoscopic grasper to pick up the peritoneum in piecemeal all around the internal ring. The needle was then pushed to the outside near to the entrance site, thus forming a semicircle around the internal ring. The suture was then tied and the knot was subcutaneously buried.

Result: The primary outcome of the procedure was the incidence of intraoperative diagnosis and surgical repair of contralateral hernias in pre-operatively diagnosed unilateral cases. The secondary outcomes were defined as the incidence of complications and hernia recurrence.

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