IS-027
Optimization of the Therapeutic Protocol for Deoxyspergualin According to Dosing Time-Dependent Differences in Toxicity and Efficacy

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Background. Immunosuppressants usually have to be given throughout the recipient’s entire life after organ transplantation, but the therapeutic ranges of the agents are so narrow that their toxicities often outweigh the beneficial effects. In pediatric patients, in particular, it is important that a safer regimen for immunosuppressant administration is established. Deoxyspergualin (DSG) is a rescue immunosuppressant for an acute graft rejection, but its use in pediatric patients is limited due to severe adverse effects. To obtain an optimized therapeutic protocol for DSG in children, chronopharmacological profiles of the agent were investigated.

Methods. Dosing time-dependent differences in the toxicities and efficacy of DSG were determined using a heterotopic heart transplant model in rats. Chronokinetics of DSG were also examined.

Results. Bone marrow suppression and small intestinal damage were significantly severe in rats treated with DSG during the active period. There were, however, no significant differences between the timing of drug administration in the survivals of cardiac allografts and pharmacokinetic profiles.

Conclusions. These results suggest that an immunosuppressive effect is independent of DSG dosing time, while toxicities are not. The modern chronopharmacological approach is useful in seeking an optimal regimen for immunosuppressant administration in pediatric patients with organ transplantation.

IS-028
Minimally invasive repair of pectus excavatum. A single institution’s experience

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Purpose Minimally invasive repair of pectus excavatum (MIRPE) has still had high rate of complications with introduction of use of the wired bar stabilizers and thoracoscopy. Here we report on early experience with emphasizing their technical modification intended to minimize complication.

Method From Sept. 2001 to Oct. 2002 eighteen patients with pectus excavatum underwent surgical correction, with a mean of 5.4 years of age. Patients were divided in group A (Endoscopically assisted Nuss procedure, n=5) and group B (modified procedure, n=13). Modified procedure was performed by left approach for dissection of substernal extrapleural path guided endoscopically. After the bar was takeover, two 3-point fixation applied. One was as same as Hebra’s (J Pediatr Surg 2001), another by three figure 8 suture around the bar, the upper and lower rib next to. Follow up carried out for 2-12 months.

Results The sex, age at operation and the Haller index were similar in two groups. There was no death in each group. Mean time of operation was slightly longer (65 Min vs. 82 Min) but a similar estimated volume of blood loss, postoperative pain control and hospital stay. Postoperative complications of group A were wound infection and pneumonia (n=1), pleural effusion (n=1), self-resolving pneumothorax (n=2). One boy had had the bar removed one month after correction as shifting bar caused a skin laceration. Of group B only two patients had a short period of bronchopneumonia without prolong hospital stay.

Conclusions The authors’ modification minimizes the risk of pneumothorax and bar displacement, preserving the feature of the original Nuss with adding no significant time to the operation.