P-075A  Relationship between L/T-ratio and LHR in the prenatal evaluation for the severity of congenital diaphragmatic hernia.

Department of Pediatric Surgery, Osaka University Graduate School of Medicine\(^1\), Department of Pediatric Surgery, Osaka Medical Center and Research Institute for Maternal and Child Health\(^2\)
Noriaki Usui\(^3\), Hiroomi Okuyama\(^2\), Toshio Sawai\(^1\), Masafumi Kamiyama\(^2\), Shinkichi Kamata\(^3\), Masahiro Fukuzawa\(^2\)

Purpose: Lung area to head circumference ratio (LHR) and lung to thorax transverse area ratio (L/T ratio) have been widely used as a indicator of severity for fetal CDH. The aim of this study was to evaluate the relationship between L/T ratio and LHR and to clarify the characteristics of these two indicators.

Materials and methods: The medical records of fetuses who had undergone prenatal evaluation of isolated CDH from 1988 to 2006 were studied. L/T ratio and LHR were determined as the early values (earliest measurement performed earlier than 33 w) and the late values (latest measurement performed later than 34 w) and analyzed as well as clinical data.

Results: Thirteen infants of 55 cases were died. A correlation expressed in the linear equation (gradient=13.7) was recognized between early L/T ratio and early LHR. All cases with early L/T ratio < 0.08 (6 cases) or with early LHR < 1.2 (7 cases) were died. Five of 13 cases with early L/T ratio ≥ 0.08 and < 0.13 were died. Four of 17 cases with early LHR ≥ 1.2 and < 2.0 were died. All cases with early L/T ≥ 0.13 (18 cases) or with early LHR ≥ 2.0 (15 cases) were alive. In 24 cases, the late values were compared with the early values. Although the L/T ratio was consistent, LHR was increased in the late values.

Conclusions: A good linear correlation was recognized between L/T ratio and LHR in the early values and cut-off point of the prognostic prediction was determined in both indicator. Contrast to the L/T ratio, consistent cut-off point are not available in LHR because of natural increase of LHR in the late phase of gestation.

P-076A  The new technical aspects of laparoscopic repair of inguinal hernia in children: Based on experience of 701 LPECs

Department of Pediatric Surgery & Pediatric Endosurgery, The Tokushima University Hospital\(^3\), Department of Surgery, The University of Tokushima School of Medicine\(^3\)
Hiroo Takehara\(^1\), Yusuke Arakawa\(^2\), Kouzou Yoshikawa\(^3\), Mitsuo Shimada\(^3\)

Purpose: Since we developed laparoscopic percutaneous extraperitoneal closure (LPEC) to treat inguinal hernias in children in 1995, 701 repairs were done for 517 children with inguinal hernia by LPEC. This paper describes a detail and recent technical aspects of LPEC based on our experience.

Procedure: During LPEC, a 4.5 mm laparoscope was placed through an umbilical incision, a 2-mm grasping forceps was inserted on the left side of the umbilicus, and a 19-gauge LPEC needle with a suture material was inserted at the inguinal region. The orifice of the hernial sac was closed extraperitoneally with circuit suturing around the internal inguinal ring. Using the LPEC needle with non-absorbable suture material, the first half of the circuit suturing was begun extraperitoneally the lateral edge of half of the internal inguinal ring. After half of the circuit suturing was completed, the suture material was removed from the LPEC needle. The circuit suturing of the opposite half of the rim of the internal ring was placed using the same technique, and the suture material was held by the LPEC needle. The LPEC needle was then removed from the abdomen together with the suture material. The circuit suturing was tied extracorporeally, and the internal inguinal ring was completely closed. Operating time for uni- or bilateral inguinal hernias ranged from 10 to 25 minutes. No complications occurred during surgery. The recurrence rate was 0.85 %. Conclusion: LPEC for inguinal hernia in children appears to be safe, effective, simple and not so difficult.