14th

Annual Meeting
Réunion Annuelle

QUÉBEC
September 13-14, 1982

Canadian Association of Paediatric Surgeons
l'Association Canadienne de Chirurgie Infantile

1982
programme détaillé

programme

schedule

QUÉBEC

September 13-14, 1982
The Canadian Association of Paediatric Surgeons was granted its charter in 1967. Its main aim is to improve the surgical care of infants and children in Canada.

There are three main areas in diagnosis, treatment and research which are of special concern to the members.

Infants Born With Congenital Abnormalities

Even though the majority of newborn infants who have severe congenital abnormalities can be treated successfully by a surgical operation, often the condition is either not recognized, or if it is diagnosed, the local physician may be unaware of the possibilities for surgical cure. In this situation most of these babies die, or some survive to live a life crippled by their deformity.

Malignancy in Childhood

Cancer is the second commonest cause of death in childhood. Now surgical removal of the tumor, combined with x-radiation and chemotherapy provided by an aggressive team utilizing new techniques can achieve a cure in over 50% of these patients.

Trauma

Finally, the number one killer of children in North America is accidents. Here again, with modern methods of first aid, transportation, resuscitation, intensive care, and specialized surgical team effort many of these seriously injured children can be saved.

EDUCATION PROGRAM

To accomplish an improvement in surgical care for babies and children, the Canadian Association of Paediatric Surgeons has launched an educational program for doctors, nurses and others working in the paediatric health field. To support this program, an educational fund has been established.
SOCIAL PROGRAM

SUNDAY, SEPTEMBER THE 12TH, 1982:

WELCOMING RECEPTION

PLACE: "Les Voûtes du Séminaire de Québec,"
1 De La Fabrique, Québec

TIME: 18h30 - 21h00

MONDAY, SEPTEMBER THE 13TH, 1982

C.A.P.S BANQUET

PLACE: Château Frontenac, salon Rose and Salon Bellevue

TIME: 19h00
Future Annual Meetings

14th Annual Meeting
CALGARY, ALTA
September 19-23, 1983

15th Annual Meeting
MONTREAL, QUE.
September 10-14, 1984

16th Annual Meeting
VANCOUVER, B.C.
September 9-13, 1985

17th Annual Meeting
TORONTO, ONT.
September 8-12, 1986
CANADIAN ASSOCIATION OF PÆDIATRIC SURGEONS
L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE

PRESIDENTS:
1967-1972    HARVEY BEARDMORE    MONTREAL
1973-1974    COLIN FERGUSON    WINNIPEG
1975-1976    JIM SIMPSON    TORONTO
1977-1978    SAM KLING    EDMONTON
1979-1980    PIERRE-PAUL COLLIN    MONTREAL
1981-1983    BARRY SHANDLING    TORONTO

SECRETARY-TREASURER:
1967-1973    BARRY SHANDLING    TORONTO
1974-1978    GORDON CAMERON    HAMILTON
1978-1983    FRANK GUTTMAN    MONTREAL
CANADIAN ASSOCIATION OF PAEDIATRIC SURGEONS
L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE

DIRECTORS

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2nd of Three Years
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Nominating
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Harvey Beardmore
association canadienne
de chirurgie infantile
canadian association
of pediatric surgeons

Iun/Mon Sep 13 0900 DUQUESNE
(Auberge)

LE PRESIDENT/CHAIRMAN: BARRY SHANDLING. Toronto

8:15 RÉUNION D’AFFAIRES ANNUELLE
ANNUAL BUSINESS MEETING

1000 FRED McLEOD LECTURE
IMPERFORATE ANORECTAL ANOMALIES: HIGH TYPE, TREATMENT AND RESULTS
P. MOLLARD, Lyon, France
LE PRESIDENT/CHAIRMAN: RAYMOND CLOUTIER, Quebec

RÉSUMÉ/ABSTRACT NO.

219 1115 MORTALITY OF CONGENITAL DIAPHRAGMATIC HERNIA. IS TOTAL PULMONARY MASS INADEQUATE NO MATTER WHAT?: L. Nguyen, J.P. de Chadarevian, F.M. Guitman, H.E. Boardman, H.F. Owen, D.R. Murphy, S. Youssef, P. Wolfson, L.S. Ahlgren, Department of Surgery, Montreal Children’s Hospital, Montreal

220 1130 POST-OPERATIVE PERSISTENT FETAL CIRCULATION IN NEONATES: THE VALUE OF MANUAL VENTILATION: P. Gulin, S.Z. Rubin, Department of Pediatric Surgery, Alberta Children’s Hospital, Calgary

221 1145 QUADRANT MUCOSAL STRIPPING AND MUSCLE PLEATING IN THE MANAGEMENT OF CHILDHOODRECTAL PROLAPSE: J.T. Mormoh, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria

222 1200 THE LOOP COLOSTOMY THAT DOES NOT PROLAPSE: S.H. En, Hospital for Sick Children, Toronto
association canadienne de chirurgie infantile
canadian association of pediatric surgeons

Lun/Mon Sep 13  1400  DUQUESNE
(Auberge)

LE PRESIDENT CHAIRMAN  LOUIS LEVASSEUR, Quebec

RÉSUMÉ/ABSTRACT
NO.
223  1400  IDIOPATHIC PERFORATION OF THE BILIARY TRACT IN INFANCY. G. Strungel, S. Mercer, Department of Surgery, Children's Hospital of Eastern Ontario, Ottawa

224  1415  EXTREME SHORT BOWEL SYNDROME IN AN INFANT. R. Postuma, University of Manitoba, Department of Surgery, Children's Hospital, Winnipeg

225  1430  SEGMENTAL DILATATION OF THE COLON; A RARE CAUSE OF CHRONIC CONSTIPATION. L. Nguyen, B. Shandling, Hospital for Sick Children, Toronto

226  1445  HIRSCHSPRUNG'S DISEASE WITH GANGLION CELLS IN THE DISTAL RECTUM M. Giacomantonio, D. MacDonald, K. Mancor, D.F. Weston, University of Toronto, Departments of Pathology and Surgery, Hospital for Sick Children, Toronto

227  1500  TESTICULAR PROSTHESES IN CHILDREN. D.G. Marshall, K. Ferguson, St. Joseph's Hospital, London, Ontario

228  1515  RENAL CELL CARCINOMA IN CHILDHOOD: A REPORT OF FOUR CASES AND A REVIEW OF THE LITERATURE. S. Youssel, L. Nguyen, Hôpital Ste-Justine, Montreal


230  1615  CONGENITAL TRACHEOESOPHAGEAL FISTULA WITHOUT OESOPHAGEAL ATRESIA: S. Yazbeck, M. Dubuc, Department of Surgery, Hôpital Ste-Justine, University of Montreal, Montreal

231  1630  TRACHEAL ATRESIA WITH TRACHEOESOPHAGEAL FISTULA. C. Bhagirath, K. Sankaran, W.T. Bingham, K. Haight and R. Hjertaas, Newborn Division, Department of Pediatrics and Family Medicine, University of Saskatchewan, Saskatoon

232  1645  LARYNGOTRACHEOESOPHAGEAL CLEFT: AN EASILY MISSED MALFORMATION. CASE REPORT AND REVIEW OF LITERATURE. P. Wolfson, M. Schloss, F.M. Gutman, L. Nguyen, Department of Surgery, Montreal Children's Hospital, Montreal
association canadienne de chirurgie infantile
canadian association of pediatric surgeons

LE PRÉSIDENT CHAIRMAN STANLEY MERCER, Ottawa

RESUME/ABSTRACT
NO.
233 0900 MODELE EXPERIMENTAL POUR L'INVESTIGATION DE L'EM-BRYOGENESE DES MALFORMATIONS VERTEBRALES CONGENITALES: C.H. Rivard, M. Duhaime, B. Poitras, Département de Chirurgie, Université de Montréal, Montréal

234 0915 CARDIAQ EFFECTS OF ESOPHAGEAL STIMULATION: POSSIBLE RELATIONSHIP BETWEEN GASTROESOPHAGEAL REFLUX (GER) AND SUDDEN INFANT DEATH SYNDROME (SIDS): K. Kenigsberg, P.G. Griswold, B.J. Buckley, N. Gottman, Departments of Surgery and Pediatrics, Long Island Jewish-Hillside Medical Center, New Hyde Park, New York, USA

235 0930 THYMECTOMY FOR MYASTHENIA GRAVIS IN CHILDREN: S. Youssef, Hôpital Ste-Justine, Montreal

236 0945 GIANT HEMANGIOMA IN THE NEWBORN AND INFANT MANAGEMENT OF COMPLICATIONS: G. Stringel, S. Mercer, Children’s Hospital of Eastern Ontario, Ottawa

237 1000 PEDIATRIC DAY SURGERY: A TWENTY-SIX-YEAR HOSPITAL EXPERIENCE: R. Postuma, C.C. Ferguson, University of Manitoba, Department of Surgery, Children’s Hospital, Winnipeg

238 1015 EXPERIENCE WITH INCISIONLESS GASTROSTOMY FOR NUTRITIONAL SUPPORT: C.L. Chen, M. Giacomantonio, R.M. Filler, The Hospital for Sick Children, Toronto
1030  EVALUATION OF A NEW CATHETER FOR TOTAL PARENTERAL NUTRITION  R.A. Superina, D.E. Wesson, A. Bahoric, R.M. Filler, The Hospital for Sick Children, Toronto

1045  PRE- AND POSTOPERATIVE HYPOGLYCEMIA IN PEDIATRIC SURGICAL PATIENTS  S. Mercer, Departments of Surgery, Children's Hospital of eastern Ontario, University of Ottawa, Ottawa


1145  SPIGEELIAN HERNIAS IN INFANTS AND CHILDREN  B. Bronsther, New York, N.Y., and L. Graivier, Dallas, Texas, USA


1215  MAJOR DOG ATTACK INJURIES IN CHILDREN  N.E. Wiseman, H. Choichinov, V. Fraser, University of Manitoba, Department of Surgery, Children's Hospital, Winnipeg
symposium
chirurgie infantile/pediatric surgery

Le Collège Royal en collaboration avec l'Association canadienne
de chirurgie infantile
Royal College in cooperation with the Canadian Society of Pediatric
Surgeons

mar. Tue Sep 14  1345        DUQUESNE
                       (Auberge)

LE PRÉSIDENT CHAIRMAN  DAVID P. GIRVAN, London

1345  GUEST LECTURE
THE INDICATIONS FOR SURGERY IN ECTOPIC TESTIS
Professeur Pierre Mollard, Professor of Surgery, Children's Hospital
Debrousse, Lyon, France

1430  SYMPOSIUM
MISE À JOUR EN CHIRURGIE ENDOCRINIENNE
UPDATE IN PEDIATRIC ENDOCRINE SURGERY

LE PRÉSIDENT CHAIRMAN  DAVID P. GIRVAN, London

HYPERTHYROIDISM  Jean Desjardins, Hôpital S'est-Juste, Montréal
HYPOGLYCEMIA  Robert Filler, Hospital for Sick Children, Toronto
ENDOCRINE CAUSES OF INFANTILE SEX P. Mollard, Hôpital Debrousse, Lyon,
France
ENDOCRINE CAUSES OF HYPERTENSION - SURGICAL MANAGEMENT - Sigmund
Eini, Hospital for Sick Children, Toronto

AN ENDOCRINOLOGIST'S VIEW OF PEDIATRIC SURGICAL PROBLEMS  J. Holland,
Hospital for Sick Children, Toronto
abstracts
THE FRED G. McLEOD LECTURE

IMPERFORATE ANORECTAL ANOMALIS: HIGH TYPE TREATMENT
AND RESULTS

PROFESSOR PIERRE MOLLARD: LYONS, FRANCE.

Professor Mollard interned in the hospitals of Lyon where he became chief resident in surgery. He continued his training in urology in the service of Professor Jean Cibert. Since 1964, Professor Mollard has been in charge of urology at the Children’s Hospital, Debrousse at Lyons.

Professor Mollard has been interested in the problems of meg-ureter, neurogenic bladder and imperforate anus. He has written extensively in these topics. He has pioneered a new approach to high type anorectal anomalis and this is to be the subject of his lecture.

Après l'internat des hôpitaux de Lyon
chef de clinique – puis assistant d'abord pendant une
année en chirurgie thoracique
ensuite pendant 5 ans en urologie dans le service du Professeur
Jean Cibert.

A partir de 1964 le Docteur Mollard est chargé du département
d'urologie de l'hôpital de l'enfant de DEBROUSSÉ.
Il consacre dès lors tous ses travaux à l'urologie de l'enfant
(még-a-uretère, vessie neurologique, extrophie vésicale), mais
aussi à la chirurgie de l'intersexualité et à la chirurgie de
l'imperforation ano-rectale.

1970: Nommé Professeur Agrégé de Chirurgie infantile
1976: Nommé Professeur titulaire de chirurgie infantile
219 MORTALITY OF CONGENITAL DIAPHRAGMATIC HERNIA: IS TOTAL PULMONARY MASS INADEQUATE NO MATTER WHAT?

L. Nyguen, J.P. de Chadarevian, F.M. Guttman,
H.E. Beardmore, H.F. Owen, D.R. Murphy,
S. Youssef, P. Wolfson, L.S. Ahlgren.

We have reviewed our autopsies in 41 patients who died with congenital diaphragmatic hernia. In 11, no operation was performed because of early death or still-birth. Associated malformations were present in 12. The total number of operations from 1964-81 was 79. The mortality rate was 35% for the whole series; however, for neonatal patients it was 44%. The lung on the affected side was severely hypoplastic in all the early deaths. In 4 patients who died over 48 hours postoperatively, the lungs were heavier (pneumonia and edema). When total lung weight was examined major bilateral hypoplasia was found. The ratio of lung weight to body weight was found to be 68 (normal = 183). Bearing major associated malformations, it is postulated that possibly nothing can be done in some patients, other than earlier in-utero surgery which would allow more time for development of both lungs.

220 POST-OPERATIVE PERSISTENT FETAL CIRCULATION IN NEONATES: THE VALUE OF MANUAL VENTILATION.

P. Gaulin, S.Z. Rubin. Department of Pediatric Surgery,
Alberta Children's Hospital, Calgary.

Three critically ill post-operative infants with persistent fetal circulation refractory to Tolazoline, 100% O₂ plus mechanical ventilation including CPAP responded favorably to prolonged manual hyperventilation. Surgery consisted of repair of diaphragmatic hernia in two cases and correction of tracheo-esophageal fistula in the other. Normal respiratory function was documented in two survivors. The third died fourteen days post-operatively. The use of this simple treatment modality indicated that perseverance can be rewarded in the treatment of persistent fetal circulation unresponsive to the usual medical management.

221 QUADRANT MUCOSAL STRIPPING AND MUSCLE PLEATING IN THE MANAGEMENT OF CHILDHOOD RECTAL Prolapse.

J.T. Momoh, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria.

The natural history of rectal prolapse in children is characterised by a tendency towards spontaneous cure in most cases. For the control of rather stubborn cases, simple operative manoeuvres are the rule.
A new operative technique which has been found effective in 15 such cases is described. 66% of them had “all-coats” prolapse and 40% had had another surgical procedure that failed to control the prolapse.

The procedure involves longitudinal excision of a 1-2cm wide mucosal strip at 12, 3, 6 and 9 o’clock positions on the prolapsed bowel. Non absorbable running muscular sutures are then placed longitudinally at these sites and tied to pleat the prolapsed bowel which is then reduced.

The procedure is simple, can be completed within 30 minutes and with negligible blood loss. No special bowel preparation is necessary and babies don’t need to be admitted. There has been no complications, and no recurrences after follow-up of up to 2 years.

222 THE LOOP COLOSTOMY THAT DOES NOT PROLAPSE.

S.H. Ein. Hospital for Sick Children, Toronto.

A loop colostomy in infants and children is usually temporary, made through a small abdominal incision and frequently prolapses its distal limb within months of its construction. Once this prolapse occurs, its permanent reduction is hardly ever achieved. On the other hand the colostomy that is made at the time of a major laparotomy, and the colostomy whose limbs are brought out through separate abdominal wall openings rarely prolapse. The advantage of the loop colostomy over the latter two types is that it is easier to make and easier to close. Within the last two years, ten infants received a form of loop colostomy which was easy to construct, easy to close and did not prolapse between these two procedures. The loop colostomy (right transverse in all instances) was brought out through a small right upper quadrant transverse rectus cutting incision and after the fascia was closed on either side of the colon loop, the latter was divided with the distal stoma was tunnelled under the skin about an inch to the left and sutured to a second skin opening with interrupted 4-0 Dexons. The proximal stoma was finally sutured to the original skin incision in a similar fashion. Function of this modified loop colostomy was no different and neither stomal therapist nor parent had any trouble caring for this double type of colostomy opening. The closure was not any more difficult. Both stomas were mobilized through one longer than usual transverse incision, trimmed off and the usual end-to-end colo-colostomy anastomosis made either extra or intraperitoneal.

223 IDIOPATHIC PERFORATION OF THE BILIARY TRACT IN INFANCY.

G. Stringel, S. Mercer, Department of Surgery, Children’s Hospital of Eastern Ontario, Ottawa, Canada.

Idiopathic perforation of the bile duct is rare in children. 67 cases were reported in the English literature until 1980. It is
nevertheless the second commonest surgical cause of jaundice in
the neonate. The etiology is unknown though distal obstruction
and weakness in the bile duct wall have been postulated. Limited
surgical treatment with external drainage is the preferred therapy.
In isolated cases, internal drainage procedures or repeated aspira-
tion have been successful. The diagnosis should be suspected in
the presence of jaundice and ascites with or without abdominal
pain and signs of peritoneal irritation. We describe a 3 month old
girl presenting with anemia, vomiting, jaundice and ascites. This
was initially diagnosed as hepatitis but bilious fluid was found on
paracentesis. Computerized tomography with cholangiography and
99m Tc Disoprodyl I.D.A. Cholescintigraphy confirmed the diag-
osis. The latter seems to be more accurate than I-131- Rose
Bengal. The perforation was at the junction of the hepatic and sys-
tic ducts. It was treated successfully by external drainage and a
cholecystostomy. Direct attempts to close the perforation or more
complicated surgical procedures are unnecessary while non-
operative treatment carries a high mortality. At follow-up after 1
year the I.V. Cholangiogram and liver function tests are normal.
Cholecystostomy provided good drainage of the biliary ducts as
well as easy access for follow up cholangiography.

224 EXTREME SHORT BOWEL SYNDROME IN AN INFANT.

R. Postuma. University of Manitoba,
Department of Surgery, Children’s Hospital, Winnipeg.

This full term male infant required an emergency laparotomy
and “untwisting” of congenital intestinal volvulus at six hours of
life. Because of hemorrhagic infarction 90% of the small bowel
eventually had to be resected at three subsequent laparotomies
leaving the proximal 8cm. of jejunum, anastomosed to the distal
5cm. of ileum with an intact ileocecal valve.

Total parenteral nutrition was administered through a “perma-
nent” Broviac Catheter for 21 months including 17 months of
home parenteral nutrition. Sham feedings of glucose were in-
trduced at one week of age and replaced by frequent small vol-
umes of mother’s milk when intestinal patency was established at
ten weeks of age. Select solids were also gradually introduced.
Presently, at two years of age he is on parenteral nutrition and
maintaining a normal nutritional status (50th percentile for weight
and height). His diet consists of mother’s milk and solids totalling
280 ml and 230 calories per kilo per day respectively. He produc-
es three to five large loose stools per day. His major problem has
been an extreme allergy to cow’s milk protein.

This infant is remarkable since, despite a record short bowel
length, he maintained completely normal growth and development,
had remarkable few serious complications, spent relatively little
time in hospital and has documented improvement of G.I. absorp-
tion and intestinal mucosa pattern on radiographic contrast
studies.
SEGMENTAL DILATATION OF THE COLON A RARE CAUSE OF CHRONIC CONSTIPATION.

L. Nguyen, B. Shandling. Hospital for Sick Children, Toronto.

Segmental dilatation of the colon belongs to the group of colonic disorders possibly related to Hirschsprung's disease but without absence or abnormalities of ganglion cells.

A ten-year old slightly retarded white male was admitted to hospital because of severe constipation with gross abdominal distention since birth. This had been getting progressively worse.

Barium enema showed a dilated sigmoid colon with a distal narrow segment. Rectal biopsy revealed the presence of normal ganglion cells in both layers of the rectal wall.

Operation was undertaken with a diagnosis of segmental colon dilatation and the abnormal bowel was removed.

The true incidence of this segmental dilatation of the colon is unknown. The clinical and radiologic picture is indistinguishable from Hirschsprung's disease. The treatment is segmental resection with end-to-end anastomosis.

HIRSCHSPRUNG'S DISEASE WITH GANGLION CELLS IN THE DISTAL RECTUM.

M. Giacomantonio, D. MacDonald, K. Mancer, D.E. Wesson. University of Toronto, Departments of Pathology and Surgery, Hospital for Sick Children, Toronto.

A 10 months old male presented with a history and physical signs suggestive of Hirschsprung's disease. Barium enema and anorectal manometry supported this diagnosis. A punch biopsy of the rectum, which included an adequate portion of rectal mucosa and submucosa, revealed the presence of nerve fibres, but no ganglion cells in the submucosal layer. The patient underwent a primary Soave pull-through and has done well since.

The surgical specimen included the distal 10cm of rectal mucosa and submucosa. Multiple histological sections taken from this specimen showed numerous small nerves and in focal areas normal numbers of ganglion cells at the distal resection margin. Sections from the middle of the specimen showed no ganglion cells around the entire circumference of the bowel. In short, there was an area of aganglionic bowel in the rectum with foci of normal ganglionated bowel distally.

This case differs from previously reported cases of skip areas in Hirschsprung's disease in that the most distal rectum contained normal ganglion cells. If the initial biopsy had been taken from this area, it is possible that the diagnosis would have been missed. The practical implication of this possibility is that a normal rectal biopsy in a case of suspected Hirschsprung's disease may not necessarily rule out the disease. Depending on the degree of suspicion, further biopsies may be warranted.
227  TESTICULAR PROSTHESES IN CHILDREN.


Does the half-empty scrotum bother a boy? The writers are convinced that it does. Fifty-two prostheses have been inserted into 49 boys since 1967. During the same period over 400 orchiopexies have been done.

There has been no rejection of the implant and no migration. Other than an occasional brief period of redness and discomfort in the scrotum, there have been no troubles. The parents and children have been pleased with the results. To insert a prosthesis into an empty scrotum of a child is preferable to leaving the scrotum empty.

228  RENAL CELL CARCINOMA IN CHILDHOOD: A REPORT OF FOUR CASES AND A REVIEW OF THE LITERATURE.


Renal cell carcinoma is a rare tumor in children, (2.5% of renal tumors in our institution). Since 1970, we treated 4 children between 4 - 11 years of age. There were 2 boys and 2 girls. A large abdominal mass was the most common presenting symptom. Until now, there is no uniformity in the treatment of this tumor, and this was the case with our patients. Three are still alive without evidence of recurrence and with follow-up ranging from three to eight years. One died three years after surgery, from recurrence and distant metastases. This tumor follows the same pattern in the child as it does in the adult. The literature (since 1934) is reviewed. Clinical findings, pathologic features and different modalities of treatment is reviewed and compared with the survival. An aggressive multidisciplinary approach for treatment is proposed.

229  CURE DE L'ATRESIE DE L'OESEPHAGE DE TYPES I ET II PAR ANASTOMOSE DIFFERE: A PROPOS DE 6 CAS.


De 1976 à 1981, 6 atresies de l'oesophage de type I et II presentant un écart de 5 à 7 vertèbres entre les culs de sac à la naissance ont été operées par anastomose directe entre la 9e et la 14e semaine à l'Hôpital Sainte-Justine.

Au moment de la chirurgie, l'espace entre les 2 culs de sac était en moyenne de 3 vertèbres et l'anastomose, conduite par voie extrapleurale par le 5e espace, a pu être fait avec une tension modérée sur des bouts oesophagiens bien vascularisés et solides.

Aucune dilatation du cul de sac supérieur n'a été exercée entre la naissance et l'intervention curative. Aucune myotomie circulaire n'a été nécessaire lors de l'anastomose.
La mortalité a été nulle. Les complications post-opératoires à relever sont: 3 fistules anastomotiques dont une seule dans la trachée à nécessité une deuxième thoracotomie et 2 reflux gastro-œsophagiens importants qui ont nécessité une fundoplication. Aucune sténose anastomotique n’est à déplorer.

Au total, les 6 patients ont conservé leur oesophage et ont un résultat excellent du point de vue de la déglutition. Malgré un taux de morbidité assez élevé, cette méthode est de loin supérieure à toutes les formes d’œsophagogastrectomie.

230 CONGENITAL TRACHEO-ÖESOPHAGEAL FISTULA WITHOUT ÖESOPHAGEAL ATRESIA.

Salam Yazbeck, Marc Dubuc, Department of Surgery, Hôp. Ste-Justine, University of Montreal, Montreal, Quebec, Canada.

Between 1961 and 1980, twelve patients with tracheo-œsophageal fistulae without œsophageal atresia (H type fistula) were treated at Hôpital Ste-Justine and Centre Hospitalier de l’Université Laval. Seven patients were male and five female, with a mean birth weight of 2.8 kg. Three were premature.

All presented at first feeding with coughing, congestion and cyanosis. Five had abdominal distension and six had hypersalivation. Mean age at time of definitive diagnosis was 12.9 days. The diagnosis was confirmed radiologically in all patients, a mean of two cine-radiographic procedures per patient being required. Cervical region (C7-T1) fistulae were present in 10 and thoracic in two patients. Eight patients were operated via a cervical approach and four via a thoracic approach. A Fogarty catheter was in place in one fistula pre-op. Two patients required gastrostomy. Refeeding was started 2.3 days post-operatively. One died and one had fistula recurrence. Eleven patients survived. One survivor had multiple episodes of cardio-respiratory arrest. None had major swallowing difficulties.

We consider it imperative that fistulae be visualized before surgical intervention. Catheterization of the fistula utilizing a Fogarty catheter should be attempted prior to surgery.

231 TRACHEAL ATRESIA WITH TRACHEOESOPHAGEAL FISTULA.

C. Bhagirath, K. Sankaran, W.T. Bingham,
Ken Haigh and R. Hjertaas, Newborn Division,
Department of Pediatrics and Family Medicine,
University of Saskatchewan, Saskatoon.

Tracheal and œsophageal atresia with tracheoœsophageal fistula (T.E. fistula) is extremely rare. So far, only 38 cases of tracheal atresia/agenesis have been reported. Almost all infants with these conditions have died immediately after birth. Some are diagnosed only at post-mortem examination. We report 2 cases born on consecutive days at 36 weeks gestation with complete tracheal and œsophageal atresia associated T.E. fistula. Parents are unrelated, with normal antenatal history except polyhydram-
nios. One baby was delivered by spontaneous vaginal delivery at 36 weeks and the other was delivered by cesarean section. Birth weights were 2300 and 2400 grams. Both infants needed immediate tracheostomy because attempts to intubate and ventilate were unsuccessful. Both infants showed complete esophageal atresia with T.E. fistula connecting the lower end of the esophagus to the bifurcation of trachea below the aortic area. Bronchoscopy showed complete cartilaginous obstruction measuring 2 cm just below the vocal cords. Both infants have survived and are now 10 months of age demonstrating appropriate physical and neurological development. In conclusion, diagnosis of tracheal atresia should be kept in mind when a newborn baby with history of polyhydramnios exhibits respiratory distress without audible cry and attempts to advance the endotracheal tube beyond the vocal cords are unsuccessful. Prompt diagnosis and appropriate management may save these infants.

232 LARYNGOTRACHEOESOPHAGEAL CLEFT: AN EASILY MISSED MALFORMATION.


Laryngotracheoesophageal cleft is a rare anomaly which presents formidable difficulties both in recognition and treatment. We recently encountered a patient with this malformation who had been misdiagnosed for 18 months. Our patient is an 18 month old boy referred to the Montreal Children’s Hospital because of inability to swallow feedings. Shortly after birth, he was noted to choke and aspirate with oral intake; a contrast swallow revealed the simultaneous passage of material into the trachea and esophagus. A diagnosis of pharyngeal dyscoordination was made and a feeding gastrostomy was performed at three days of age. The patient was maintained thereafter solely on gastrostomy feedings. At our hospital, several repeat cine-esophagograms and three endoscopic examinations failed to reveal the presence of either a cleft or a H-fistula, which we suspected. At the age of 18 months, a partial laryngotracheoesophageal cleft was finally recognised endoscopically. Following operative repair via a lateral pharyngotomy approach the patient eats and drinks normally, and the gastrostomy has been removed. Fifty-nine cases of laryngotracheoesophageal cleft have been reviewed in the English literature. In spite of suspicion for this entity in any infant with recurrent aspiration, the diagnosis remains difficult to establish. The mortality is high, but of course, most are operated on much earlier than in our patient. The embryogenesis, clinical presentation, diagnostic maneuvers, and details of treatment will be presented.

233 MODELE EXPERIMENTAL POUR L’INVESTIGATION DE L’EMBRYOGENESE DES MALFORMATIONS VERTEBRALES CONGENITALES.

Charles H. Rivard, Morris Dutaime, Benoit Poitras,
Département de Chirurgie, Université de Montréal,
Montréal, Québec.

Nous utilisons la souris comme animal expérimental et l’hypoxie hypobarique modérée comme agent tératogène. Nous adminis-
trons ce dernier au 9.5e jour de la grossesse car nous obtenons alors 90% des embryons avec des malformations vertébrales congénitales. Le but de cette recherche est de préciser le mécanisme inducteur et le temps d'induction des malformations vertébrales congénitales. Nous utilisons actuellement l'incorporation en culture de tissus de la thymidine $^3$H pour l'étude de la prolifération des cellules mésenchymateuses, du Na$_3$SO$_4$ pour la quantification des glycosaminoglycans sulfatés et du glucose C$^{14}$ pour la détermination de l'acide hyaluronique dans le complexe inductif notochorde-sclérotome. Nous avons démontré que les malformations produites chez ce modèle expérimental sont identiques à celles retrouvées chez l'humain. Elles sont présentes au stade cartilagineux du développement; elles sont donc induites au stade mésenchymateux. Nous avons démontré une perturbation de la prolifération cellulaire dans le complexe chez le traité. Nous croyons que cette hyperproliferation inhibe la différenciation normale des cellules mésenchymateuses en chondroblastes. Cette différenciation étant anormale et souvent asymétrique, nous croyons que c'est le mécanisme inducteur des malformations vertébrales congénitales.

234 CARDIAC EFFECTS OF ESOPHAGEAL STIMULATION: POSSIBLE RELATIONSHIP BETWEEN GASTRO-ESOPHAGEAL REFLUX(GER) AND SUDDEN INFANT DEATH SYNDROME(SIDS).


GER in sleeping infants may cause apnea leading to SIDS. Introduction of fluid into the larynx can induce prolonged apnea which can be blocked by division of the superior laryngeal nerves (SLN).

The cardiac effects of GER are thought to be secondary to apnea. However, esophageal stimulation can cause bradycardia independent of apnea.

The esophagus was stimulated by two methods in two to four day old piglets.

In 4 piglets, a Foley catheter was passed P.O. and inflated in the esophagus. HR dropped 25±4 b.p.m. The most sensitive area was 12 cm from the upper incisors.

In 15 piglets, saline solutions (10cc) of varying pH were flushed through the esophagus via a tube introduced through a gastrostomy. With 3.0 to 7.5 pH, HR did not decrease, but with 1.0 to 2.5 pH there was a decrease of 31±5 b.p.m. Atropine (n=7) (.02–.1mg/kg) blocked the decrease.

Unlike apnea induced by laryngeal stimulation, bradycardia induced by acid reflux is not affected by division of the SLNs. Bradycardia caused by GER may itself be a significant component of SIDS.
THYMECTOMY FOR MYASTHENIA GRAVIS IN CHILDREN.

S. Youssef, Hôpital Ste-Justine, Montreal.

Myasthenia gravis is rare in childhood. In the last 12 years, we have treated 8 children under 16 years of age for this disease. There were 7 girls and 1 boy. Age of presentation of symptoms ranged from 8 to 15 years (mean: 11). All were given cholinergic drugs and three had corticosteroids as well. Three underwent tracheostomies because of severe respiratory insufficiency. There was clinical deterioration or no improvement in spite of increasing doses of medication; hence, thymectomy was performed in all within the first year of start of therapy. The thymus looked normal, except for lymphoid hyperplasia in 2. Dramatic amelioration with eventual complete recovery was seen in 7. One was non-responsive to operative intervention after a follow-up of 1 to 11 years, (average 6 years). Details will be discussed and literature reviewed. We recommend early thymectomy in myasthenia gravis of childhood because of very encouraging results.

GIANT HAEAMANGIOMA IN THE NEWBORN AND INFANT MANAGEMENT OF COMPLICATIONS.

G. Stringel, S. Mercer, Children’s Hospital of Eastern Ontario, Ottawa, Canada.

Most haemangiomas do not cause major problems unless they are functionally or emotionally unacceptable.

In uncomplicated cases spontaneous involution is probable and treatment is expectant.

Acute complications of Giant Haemangiomas include cardiac failure, hemorrhage due to platelet trapping and D.I.C. and require immediate treatment. We report the treatment of complications in 4 cases.

Two had complications in the newborn period. One had massive haemangioma of the right chest, arm and neck. In this severe case D.I.C. and heart failure were temporarily controlled by embolization and steroid therapy. She subsequently died of disseminated Candidiasis. Another neonate with Giant Haemangioma of the right thigh suffered from mild thrombocytopenia and heart failure. The haemangioma was treated with intermittent pneumatic compression.

In a 3 month old baby with a large haemangioma of the left arm, severe thrombocytopenia was controlled with reduced field radiotherapy after all other treatment failed.

In a 7 month old baby with a Giant Haemangioma of the right lower extremity and buttock, hemorrhage was controlled with continuous compression treatment.

As illustrated in our 4 cases, several modalities of treatment may have to be used to control life threatening complications of Giant Haemangiomas.
PEDiatric Day Surgery: A Twenty-Six Year Hospital Experience.

R. Postuma, C.C. Ferguson. University of Manitoba, Department of Surgery, Children’s Hospital, Winnipeg.

This report is a 26 year review of the Day Surgery experience at the Children’s Hospital of Winnipeg. Special emphasis is given to the last 12.5 years when a unique peri-operative home visiting program was carried out. During the latter period, 23,750 patients underwent Day Surgery Procedures. Complications occurred in 1% of the patients; half of these required admission to hospital. There was one death, of a patient who was admitted following the procedure. Presently, 43% of all operating room procedures are carried out as Day Surgery, involving seven pediatric specialties and over 25 surgical procedures. Patients who received pre-op home visits had a significantly lower surgery cancellation rate than those not visited: 1.7% versus 11.4% respectively. In a prospective controlled study we found that Day Surgery Procedures also entailed less time off from work and a major financial advantage to the parents. In our experience, Pediatric Day Surgery is safe, efficient and best for a large proportion of infants and children requiring elective operations.

Experience with Incisionless Gastrostomy for Nutritional Support.


Incisionless gastrostomy was performed under local anesthesia in 9 children (age 11-19) with cystic fibrosis and one 10 year old with brain tumor for malnutrition. The procedure originally described by Gauderer et al is performed by inserting a gastroscope into the stomach. A #14 angiocath is inserted through the anterior abdominal wall into the stomach lumen. A string passed through the angiocath is grasped with the gastroscope forceps and pulled out of the mouth as the scope is removed. A #16 mushroom catheter is tied to the oral end of the string and it is advanced to the stomach as the string is withdrawn from the abdominal wall.

All patients tolerated the procedure well with no complications at time of insertion and no compromise of pulmonary function at surgery or in the immediate post-op period. In all cases, alimentation was started through the gastrostomy tube within 24 hours, and was tolerated well. One tube was accidentally pulled out more than a month after surgery while the patient was at home. A second patient required cauteryization of granulation tissue at the insertion site. No other problems related to the gastrostomy tubes were noted. Nutrition improved in all. 5 of the cystics died of progressive respiratory failure after initial improvement in nutrition. This favorable experience supports the use of incisionless gastrostomy as an alternative method of gastric intubation in selected patients.
239 EVALUATION OF A NEW CATHETER FOR TOTAL PARENTERAL NUTRITION.

The Hospital for Sick Children, Toronto.

Sepsis and mechanical problems continue to be major disadvantages of central venous total parenteral nutrition (TPN). To improve our results, a new silastic catheter which would eliminate some of the problems which occur with currently available catheters was developed and tested.

129 lines were placed in 111 patients over a 2 year period. Lines were in place an average 48 ± 5.2 days (range 1-328 days). 17 developed a positive blood culture, presumably related to the line, for a sepsis rate of 3.2 per 1000 patient days. 13 of these 17 septic episodes occurred in 5 patients indicating that those who have one infection are at increased risk for subsequent ones. All infections were controlled by line withdrawal and or antibiotic therapy.

Mechanical problems occurred in 9 of 129 lines (1.6 per 1000 patient days). Emboli or accidental withdrawal of the line did not occur.

This new catheter, which is technically easy to insert, remove, repair and maintain, is safe and effective for long-term hospital and home TPN.

240 PRE AND POSTOPERATIVE HYPOGLYCEMIA IN PEDIATRIC SURGICAL PATIENTS.

S. Mercer. Departments of Surgery, Children’s Hospital of Eastern Ontario, Ottawa, University of Ottawa.

Hypoglycemia is not infrequently seen in susceptible neonates (e.g. children of diabetic mothers, prematures and children with islet cell tumours). It has been reported in children undergoing non emergency surgery, after a period of fasting. Its occurrence in neonates requiring emergency surgery is not well recognized nor is it well understood. The occurrence of unsuspected severe hypoglycemia in two infants under one year of age was found in association with convulsions and gross cerebral cortical damage in one child and with death in another child. This has lead to a retrospective and prospective study of blood glucose levels in infant and neonates undergoing surgery. Forty-three neonates were reviewed in whom a total of 58 procedures had been carried out. Pre and postoperative hypoglycemia were found in 8 patients (40 mgm.%). In two further patients, moderately severe hypoglycemia under 50 mgm.% was found. Possible etiological factors (surgical lesion, age, weight, fasting time etc.) and prevention are investigated.
241  HYPERTENSION PORTALE PAR BLOC EXTRAHEPATIQUE DE L'ENFANT (HTPEH), EXPERIENCE A STE-JUSTINE.

Hervé Blanchard, Gilles Beauchamps, Denyse Normandin, Philippe Montpetit, A. Bensoussan.
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De 1960 à 1981, 31 enfants âgés de 3 mois à 13 ans ont été traités à l'Hôpital Ste-Justine pour HTPEH.

L'âge de début des hémorragies digestives a été de 3½ mois à 13 ans. Des facteurs étiologiques susceptibles d'être à l'origine d'une thrombose de la veine porte ont été relevés chez 16 patients. La splénoportographie coelio-mésentérique a permis d'établir le diagnostic de caverne de la veine porte. Des 31 malades, 28 ont saigné activement de varices oesophagiennes et 3 n'ont pas encore saigné. Parmi ces 28 cas, 7 ont eu un traitement conservateur et 11, des injections sclérosantes des varices. 10 ont eu une dérivation porto-systémique. 5 ont eu une transposition intra-thoracique de la rate. Chaque cas a eu en moyenne 9,5 épisodes hémorragiques; 8,7 hospitalisations et 7,5 litres de sang.

Sur une période de 8 à 17 ans, les hémorragies ont diminué en fréquence et en intensité chez les malades non shuntés.

La décision de pratiquer un shunt porto-systémique se fera à la lumière des risques et de la morbidité des hémorragies itératives.

242  SPIGELIAN HERNIAS IN INFANTS AND CHILDREN.

B. Bronshter, New York, New York and
L. Gravier, Dallas, Texas.

Spontaneous Spigelian hernias are so rarely recognized in pediatric patients that they are considered a curiosity in the surgical literature. Adrian Van der Spiegel (Spigelius, 1599-1625) first described the Spigelian semilunar line as the transition between aponeurotic and muscular portion of the transversus abdominis muscle. About 200 cases have been recorded in the adult surgical literature. In 1935, Scopinero reported a 6 day old neonate who died of a strangulated Spigelian hernia. In 1955, Hurwitt and Borrows recorded the first case of bilateral Spigelian hernia in a child. Landry, in 1956, was the first to record a traumatic Spigelian hernia in a pediatric patient. As of 1977, only 6 cases of spontaneous Spigelian hernias have been reported in infants and children. One of us (LG) reported 3 cases in 1977 and has recently operated a 4th case. Two other cases have been operated by the other author (BB). Experience with this combined caseload and review of the literature have stimulated this report.

Factors which contribute to the formation of ventral hernias in adults, such as obesity, multiple pregnancies or chronic cough cannot be considered as causative in infants and children. The best explanation is Zimmerman and Anson's concept of segmental banding of the internal oblique and transversus abdominus muscles.
243 SEGMENAL INFARCTION OF THE GREATER OMENTUM AS A CAUSE OF THE ACUTE ABDOMEN IN CHILDHOOD.

The Hospital for Sick Children, Toronto.

Segmental infarction of the greater omentum is a rare, but clearly recognized cause of acute abdominal pain in children. The clinical course, operative findings, and pathology of 9 cases encountered at this institution since 1951 were reviewed.

The average age of the 5 boys and 4 girls in the series was 8 years. All presented with RLQ pain, and in 4 it was preceded by periumbilical or generalized abdominal pain. Vomiting was noted in 2. RLQ tenderness and guarding was noted in all, and rebound tenderness was present in 5. The highest recorded temperature was 38 degrees C, and the average WBC was 13,000.

At surgery, a necrotic hemorrhagic mass of omentum varying in size from 4 to 11 cm. was found in the RLQ in all. Definite torsion of the omentum was present in 4.

The study indicates that the clinical picture of omental infarction is virtually indistinguishable from appendicitis. When infarction is recognized at surgery, it is not indicative of additional intraabdominal pathology and excision of the mass is all that is necessary. Though admittedly an unusual cause of the acute abdomen, we feel that it is a disease entity with which every pediatric surgeon should be familiar.

244 MAJOR DOG ATTACK INJURIES IN CHILDREN.

N.E. Wiseman, H. Chochoinov, V. Fraser.
University of Manitoba, Department of Surgery,
Children's Hospital, Winnipeg.

Children are frequently admitted to hospital with injuries sustained as a result of being attacked by a dog. Over a 5 year period (1977-1981), 57 such patients have been treated at the Winnipeg Children's Hospital. Half of the dog attack victims were 5 years or younger with injuries occurring more often in boys (55%). The majority of patients (95%) sustained puncture wounds and laceration to the face (77%) and extremities (23%). In 3 patients, the dog attack victim presented with peritonitis secondary to bowel perforation. Case 1: male, age 5 years, Alsatian dog, rectal perforation. Case 2: female, age 28 months, St. Bernard dog, gastric perforation, hepatic laceration. Case 3: male, age 3 years, mongrel dog, "right hemicolectomy", gastric perforation, open chest wound. In each of these 3 patients, treatment resulted in a successful outcome. The literature on dog bite injuries indicates that the problem is common and the injury sustained usually involves soft tissues. Serious cosmetic deformity and related litigations have been well publicized. The small child however, as our experience indicates, appears to be at risk of sustaining a life threatening injury. Is the dog a child's best friend?
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