15th

Annual Meeting
Réunion Annuelle

CALGARY

September 19-21, 1983

Canadian Association of Paediatric Surgeons
l'Association Canadienne de Chirurgie Infantile
programme détaillé
programme schedule

CALGARY
September 19-21, 1983
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 18TH, 1983:

WELCOMING RECEPTION

Place:  Dr. Geoff & Shirley Seagram
        1110 Sifton Boulevard S.W.
        Calgary, Alberta
        T2T 2L1
        (403) 243-0031

Time:  19:00 RSVP

MONDAY, SEPTEMBER 19TH, 1983:

C.A.P.S. BANQUET

Place:  Four Seasons Hotel
        Calgary, Alberta

Time:  19:00 RSVP
FUTURE ANNUAL MEETINGS

16TH ANNUAL MEETING
MONTREAL, QUE.
September 10-14, 1984

17TH ANNUAL MEETING
VANCOUVER, B.C.
September 9-13, 1985

18TH ANNUAL MEETING
TORONTO, ONT.
September 8-12, 1986
CANADIAN ASSOCIATION OF PAEDIATRIC SURGEONS

L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE

PRESIDENTS:

1967-1972    HARVEY BEARDMORE    MONTREAL
1973-1974    COLIN FERGUSON     WINNIPEG
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1977-1978    SAM KLING          EDMONTON
1979-1980    PIERRE-PAUL COLLIN  MONTREAL
1981-1983    BARRY SHANDLING    TORONTO
1983-        GORDON CAMERON    HAMILTON

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1967-1973    BARRY SHANDLING   TORONTO
1974-1978    GORDON CAMERON    HAMILTON
1978-1983    FRANK GUTTMAN      MONTREAL
1983-        DAVID GIRVAN     LONDON
CANADIAN ASSOCIATION OF PAEDIATRIC SURGEONS

L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE

DIRECTORS:
President ......................... Gordon Cameron
Past President .................... Barry Shandling
3rd of Three Years ............... Richard Kennedy
2nd of Three Years ............... Ray Postuma
1st of Three Years ............... Alexander Gillis
Secretary-Treasurer ............... David Girvan

COMMITTEE CHAIRMANS:
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Programme ........................ J.C. Ducharme
Local Arrangements .............. Geoff Seagram
Membership and Credentials ...... Thomas Goodhand
Publications ....................... Sigmund Ein
Health Care Data ................ Phil Ashmore
Ethical and Moral Issues ........ Pierre Soucy
Education Fund ................... Ray Postuma
Liaison to the Royal College ... Pierre Paul Collin
Archivist ......................... Barry Shandling
World Federation ................ Barry Shandling
Constitution and Bylaws ....... Gordon Cameron
canadian association of pediatric surgeons
association canadienne de chirurgie infantile

Mon/1un Sep 19  0815  LAKEVIEW/MOUNT ROYAL (Westin)

CHAIRMAN/LE PRÉSIDENT: BARRY SHANDLING, Toronto

0815 ANNUAL BUSINESS MEETING - RÉUNION D'AFFAIRES ANNUELLE
1000 FRED MCLEOD LECTURE - CONFÉRENCE FRED MCLEOD
   EXPERIENCE WITH BILIARY ATRESIA:
   Ken Kimura, Kobe, Japan

CHAIRMAN/LE PRÉSIDENT: Jean G. Desjardins, Montreal

ABSTRACT/RÉSUMÉ NO.

261  1115 THE CLINICAL RELEVANCE OF CERTAIN OBSERVATIONS ON
     THE HISTOLOGY OF THE THYROGLOSSAL TRACT: Pierre Soucy,
     Children's Hospital of Eastern Ontario, Ottawa

262  1130 FIBER OPTIC GASTRO-INTESTINAL ENDOSCOPY IN INFANTS
     AND CHILDREN: Ray Postuma and S.P. Moroz, Sections of Pediatric
     General Surgery and Pediatric Gastroenterology, Children's Hospital and
     University of Manitoba, Winnipeg

263  1145 CONSEQUENCES OF PER-OPERATIVE MYOCARDIAL ISCHEMIA
     ON THE HEMODYNAMIC RESPONSE TO HYPERTONIC NaHCO₃ IN DOGS:
     L. Dumont, P. Stanley, C. Chartrand, Chirurgie Cardiaque, Hôpital
     Ste-Justine, Montréal

264  1200 GASTRIC VOLVULUS IN INFANTS AND CHILDREN: S. Youssef,
     J.-M. Laberge, J.-C. Ducharme, Hôpital Sainte-Justine, Département de
     Chirurgie, Montréal
ABSTRACT/RÉSUMÉ

NO.

265 1400 PRUNE BELLY VARIANTS: J.C. Donald, J. Popkin, L. Cox, J. Grantmyre, Departments of Pediatrics and Surgery, Child and Family Unit, Victoria General Hospital, Victoria

266 1415 AGANGLIONOSIS OF THE ENTIRE BOWEL: M. Di Lorenzo, P. Brochu, S. Yazbeck, Ste-Justine Hospital, Montreal

267 1430 TOTAL COLON AGANGLIONOSIS - A NEW OPERATION: Barry Shandling, Hospital for Sick Children, Toronto

268 1445 PERFORATING ULCER IN A REVERSE GASTRIC TUBE: N.E. Wiseman, University of Manitoba, Department of Surgery, Children's Hospital, Winnipeg

269 1500 REGIONAL ANESTHESIA FOR PEDIATRIC MUSCLE BIOPSIES: A SAFE ALTERNATIVE TO GENERAL ANESTHESIA: S.Z. Rubin, B. Cameron, H.B. Sarnat, Divisions of Pediatric Surgery and Pathology, Alberta Children's Hospital, Calgary

270 1515 APPENDICITIS IN CHILDREN WITH JUVENILE ONSET DIABETES MELLITUS: L. Nguyen, L. Ahlgren, R. Schlechter, F. Guttman, The Montreal Children's Hospital, McGill University, Montreal

271 1600 UROKINASE IN THE TREATMENT OF OCCLUDED CENTRAL VENOUS CATHETERS IN CHILDREN: A.L. Winthrop, D.E. Wesson, Department of Surgery, University of Toronto and The Hospital for Sick Children, Toronto

272 1615 HYDROCOLPOS IN NEWBORN: EASY TO MISS? DIFFICULT TO TREAT?: L. Nguyen, S. Youssef, F. Guttman, R. Schlechter, L. Ahlgren, The Montreal Children's Hospital, McGill University, Montreal

273 1630 SIMULTANEOUS INGUINAL HERNIA REPAIR AND VENTRICULO-PERITONEAL SHUNT IN PREMATURES WITH RAISED INTRACRANIAL PRESSURE: C. Decker, S.Z. Rubin, H. Schroeder, Divisions of General Surgery and Neurology, Alberta Children's Hospital, Calgary

274 1645 CHYLOUS ASCITES: AN ETIOLOGY OF PERITONITIS IN INFANCY: D.L. Loiterman, M.A. Bleicher, Division of Pediatric Surgery, Department of Surgery, The Mount Sinai Medical Center, New York City, New York, USA
symposium

general surgery/chirurgie générale

Royal College in cooperation with the Canadian Association of General Surgeons and the Canadian Association of Pediatric Surgeons

le Collège Royal en collaboration avec l'Association canadienne des chirurgiens généraux et l'Association canadienne de chirurgie infantile

Tue/mar Sep 20 0800 BRITANNIA/BEL-AIRE (Westin)

TRAUMA/TRAUMATISMES

CHAIRMAN/LE PRÉSIDENT: DAVID MULDER, Montreal

0800 MANAGEMENT OF INITIAL RESUSCITATION PROBLEMS IN THE EMERGENCY DEPARTMENT: Gerald Bristow, Director of the Emergency Medical Service Unit, Health Sciences Centre, Winnipeg

0815 SURGERY IN THE RESUSCITATION OF THE CRITICAL INJURED: Charles Burns, Director of Trauma Services, Health Sciences Centre, Winnipeg

0830 ALTERED INJURY PATTERNS AND SURVIVAL IN SEAT BELTED MOTOR VEHICLE ACCIDENT VICTIMS: Henri Atlas, Associate Professor of Surgery, Université de Montréal, Montréal

0845 CHEST INJURIES IN CHILDREN: Dr. Burrington, Director of Surgical Education, Denver Children's Hospital, Denver, Colorado, USA

0900 ABDOMINAL INJURIES IN CHILDREN: David E. Wesson, The Hospital for Sick Children, Toronto

1000 GUEST SPEAKER:

Donald Trunkey, Chief of Surgery, San Francisco General Hospital, San Francisco, California, USA
Canadian Association of Pediatric Surgeons
Association canadienne de chirurgie infantile

Tue/mar Sep 20 1130 Lakeview/Mount Royal
(Westin)

Chairman/Le Président: Stanley Mercer, Ottawa

Abstract/Résumé

No.

275 1130 Thirty Years of Pediatric Primary Malignant Liver Tumors: M. Giacomantonio, S.H. Ein, C.A. Stephens, Hospital for Sick Children, Toronto

276 1145 Radioisotope Spleen Scan - Its Role in Pediatric Splenic Trauma: D.P. Girvan, Division of Pediatric Surgery, War Memorial Children's Hospital, University of Western Ontario, London


278 1215 Nonoperative Management of Liver Injuries Following Blunt Abdominal Trauma: E. Grisoni, J. Ferron, R. Izant, Case Western Reserve University, Cleveland, Ohio, USA
canadian association of pediatric surgeons
association canadienne de chirurgie infantile

Tue/mon Sep 20  1400  LAKEVIEW/MOUNT ROYAL
(Westin)

CHAIRMAN/LE PRÉSIDENT: SAMI YOUNES, Montreal

1400 GUEST LECTURE
MANAGEMENT OF CHOLEDOCHAL CYST:
Ken Kimura, Kobe, Japan

ABSTRACT/RÉSUMÉ
NO.

279  1445 MICRO SURGERY FOR BRESCHIA-CIMINO FISTULA
CONSTRUCTION IN PEDIATRIC PATIENTS: S. Yazbeck, S. O'Regan,
Department of Surgery and Nephrology Service, Ste-Justine Hospital,
Montreal

280  1500 AIRWAY FOREIGN BODIES IN CHILDHOOD: DIAGNOSTIC
ACCURACY: N.E. Wiseman, University of Manitoba, Department of
Surgery, Children's Hospital, Winnipeg

281  1515 PSEUDOMEMBRANOUS ANTRAL OBSTRUCTION IN INFANCY:
FACT OR FICTION?: S.Z. Rubin, G. Gall, Divisions of Pediatric Surgery
and Gastroenterology, Alberta Children's Hospital, Calgary

282  1600 CYSTIC DUPLICATIONS OF THE ESOPHAGUS AND NEURENERETIC
CYSTS: R.A. Superina, S.H. Ein, R.P. Humphreys, The Hospital for Sick
Children, Toronto

283  1615 ESOPHAGEAL DUPLICATION CYST CONTAINING A FOREIGN
BODY: G. Stringel, S. Mercer, V. Briggs, Children's Hospital of Eastern
Ontario, Ottawa

284  1630 THE SURGICAL MANAGEMENT OF PERSISTENT POST-OPERATIVE
CHYLOTHORAX IN CHILDREN: G. Stringel, S. Mercer, Children's Hospital of
Eastern Ontario, Ottawa

285  1645 INFECTED THYMIC CYST - AN UNUSUAL CAUSE OF
RESPIRATORY DISTRESS IN A CHILD: George G. Youngson, Sigmund H.
Ein, William R. Geddie, Ernest Cutz, The Hospital for Sick Children,
Toronto
canadian association of pediatric surgeons
l'association canadienne de chirurgie infantile

Wed/mer Sep 21 0900 ALBERTA CHILDREN'S HOSPITAL

CHAIRMAN/LE PRÉSIDENT: STEVEN Z. RUBIN, Calgary

ABSTRACT/RÉSUMÉ

NO.

286 0900 MULTIPLE PHEOCHROMOCYTOMA - A CASE REPORT AND A REVIEW: S.A. Youssef, Laurie Ahlgren, Alicia Schiffman, Divisions of General Surgery and Endocrinology, Departments of Surgery and Pediatrics, Montreal Children's Hospital, McGill University, Montreal

287 0915 IDIOPATHIC POST-OPERATIVE PULMONARY HYPERTENSION: G. Stringel, O.H.P. Teixeira, R.G. Peterson, Children's Hospital of Eastern Ontario, Ottawa

288 0930 THE SURGICAL MANAGEMENT OF DUODENAL DUPLICATION CYSTS SIMULATING PYLORIC STENOSIS: J.M. Pober, M.A. Bleicher, Division of Pediatric Surgery, Department of Surgery, The Mount Sinai Medical Centre, New York, New York, USA

289 0945 CONGENITAL CERVICAL SALIVARY FISTULA: Pierre Soucy, Children's Hospital of Eastern Ontario, Ottawa

1000 DISCUSSION OF PROBLEM CASES
abstracts
Professor Kimura was born just outside of Hiroshima in 1937, graduated from the Kobe Medical College in 1963. His post graduate training included a rotating internship at the U.S. Navy hospital of Yokosuka, and the general and thoracic Surgical training in Kobe University Hospital. In 1970-72 he was Pediatric Surgical Fellow at the Kobe Children's Hospital, and in 1972-73 Chief Resident in Pediatric Surgery, Boston Floating Hospital, in Boston Massachusetts. In 1976 Professor Kimura was awarded Ph.D. from the Kobe University School of Medicine. Since 1974 he has been head of the Pediatric Surgical Service, Department of Surgery, at the Kobe Children's Hospital. He is a member of several Pediatric Surgical Societies of Japan and has been on the Board of Directors of the Pacific Association of Pediatric Surgeons and on the Asian Association of Pediatric Surgeons.

His scientific output has been outstanding with over 130 published papers. His main interests have been in Biliary Atresia and choledochal cyst disease.


Son rendement scientifique a été exceptionnel, marqué par la publication de plus de 130 articles. Ses principaux intérêts se situent au niveau de l'artrésie biliaire et de la maladie kystique du cholédoque.
261 THE CLINICAL RELEVANCE OF CERTAIN OBSERVATIONS ON THE HISTOLOGY OF THE THYROGLOSSAL TRACT.


A review of over 75 cases of midline neck cysts was carried out at the Children's Hospital of Eastern Ontario to confirm our impression that certain important facts regarding the microanatomy of thyroglossal duct cyst and its associated tract were the subject of a number of misconceptions entrenched both in surgeon's minds and in the standard text-books.

Our own observations and a review of the literature dating back to Dr. Sistrunk’s own original contribution in 1920 lead us to emphasize the following:
1- Thyroglossal duct cysts seldom have an intact lining.
2- The thyroglossal "duct" frequently is multiple and arborizes.
3- Its course is always anterior to the hyoid bone.
4- It is seldom discernible to the naked eye and it is futile to attempt to dissect it out at operation. By the same token, a full Sistrunk procedure MUST be done even if the tract is not seen.
5- Deep cervical dermoid cysts may mimic thyroglossal duct cyst when firmly fixed to the hyoid bone, but the presence of sebaceous material in the cyst will identify the cyst as a dermoid, and thus save the patient from a Sistrunk procedure, since thyroglossal duct cysts do not undergo KERATINIZING squamous metaplasia.

262 FIBEROPTIC GASTROINTESTINAL ENDOSCOPY IN INFANTS AND CHILDREN.

Ray Postuma, M.D. and S. P. Moroz, M.D. Sections of Pediatric General Surgery and Pediatric Gastroenterology, Children's Hospital, Winnipeg and University of Manitoba, Winnipeg, Canada.

This paper reviews our experience with fiberoptic gastrointestinal endoscopy in infants and children for the 4.5 year period ending February 1983. A total of 146 endoscopies were performed in 114 patients, median age 9 years: 91 gastroscopies in 73 patients and 55 colonoscopies in 49 patients. In 8 patients both procedures were performed. The most common diagnoses were: gastrointestinal bleeding, inflammatory bowel disease, gastroesophageal reflux, and suspected peptic ulcer or intestinal polyps. The indications for endoscopy were: (brackets indicate the number of proce-
dures where abnormalities were found): assessment of previously diagnosed lesion, 60 (52); undiagnosed lesions, 50 (27); lesions diagnosed or suspected by other diagnostic methods, 28 (7); removal of foreign bodies, 8. Most retained foreign bodies are removed by rigid endoscopy and these procedures were excluded from this review. General anesthesia was used in all but one patient. A minor complication occurred in one patient.

In our experience fiberoptic gastrointestinal endoscopy may be performed safely in infants and children and is very useful in the diagnosis and assessment of gastrointestinal lesions in pediatric patients.

263 CONSEQUENCES OF PER-OPERATIVE MYOCARDIAL ISCHEMIA ON THE HEMODYNAMIC RESPONSE TO HYPERTONIC NaHCO₃ IN DOGS.


Because hypotension induced by hypertonic sodium bicarbonate (NaHCO₃) is more severe when cardiac performance is impaired, we have evaluated the hemodynamic consequences of per-operative myocardial ischemia upon the response to an intravenous bolus of NaHCO₃ in conscious dogs. 22 dogs were equipped with an electromagnetic flow probe positioned around the ascending aorta (group I) and 17 dogs were equipped in the same manner and submitted to one hour of myocardial ischemia combined with topical cardiac hypothermia (group II). Hemodynamic studies were performed daily prior to and during the administration of NaHCO₃. Baseline hemodynamic values in group I were always within normal limits. In group II cardiac failure was evident in the immediate postoperative period only. For both groups, the peak hypotensive response to NaHCO₃ is combined with a significant reduction in left ventricular performance. However this response is more pronounced in group II during the first four postoperative days, being maximum 3 and 24 hours after surgery. Afterwards the hemodynamic response to NaHCO₃ is similar in both groups. These results indicate that an intravenous bolus of NaHCO₃ decreases left ventricular performance and that this decrement is more severe when cardiac performance is impaired. Long term studies show that per-operative myocardial ischemia does not bear deleterious consequences on the cardiovascular adaptability to NaHCO₃ administration.
264  GASTRIC VOLVULUS IN INFANTS AND CHILDREN.


Gastric volvulus is rare in infants and children. Scarce reports have appeared in the literature. We reviewed our experience in the last 25 years, and found 6 cases, all of which presented in the last four years. Two were in the newborn period and four were older with an age ranging from 3 years to 11 years (an average of 6). In two, the presentation was acute and in four, the symptoms were chronic. Four had associated malformations. Five had mesenterico-axial volvulus, and in one, it was organo-axial. Diagnosis was made by x-ray in all. All underwent gastroscopy alone, except in one malnourished baby, for whom a temporary feeding gastrostomy was also added. Associated malformations, when present, were corrected. There was an immediate response with disappearance of symptoms in all, with a follow-up from 3 months to 4 years. Details of each case will be presented separately, and the literature reviewed. Perhaps this entity is more common than generally thought and it should be suspected in the child with chronic intermittent upper abdominal pain and distension, and failure to thrive.

265  PRUNE BELLY VARIANTS.


In the last 10 years, 6 cases of “Prune Belly” have been seen on Vancouver Island. Three of these cases had the classically wrinkled abdominal wall but of the other 3, one had in addition a gastroschisis, one had a complete absence of the muscles on the left side — a hemi-prune and a third had a relative deficiency of the muscles on the right.

The management of the abdominal wall defects was conservative with the exception of the patient with gastroschisis who had a repair at birth and was subsequently fitted with a corset.

266  AGANGLIONOSIS OF THE ENTIRE BOWEL.

M. Di Lorenzo, Resident in pediatric surgery, Ste-Justine Hospital, Montreal; P. Brochu, Pathology Department, Ste-Justine Hospital, Montreal; S. Yazbeck, Department of Surgery, Ste-Justine Hospital, Montreal.

Four (4) cases of aganglionosis of the entire bowel (AEB) are presented, each of them with a different histologic pattern. All were invariably lethal. Detailed histology will be presented.
A review of the eleven (11) cases of AEB published to date will be presented and a discussion of different etiologic mechanisms will be done.

267 TOTAL COLON AGANGLIONOSIS — A NEW OPERATION.

Barry Shandler, Hospital for Sick Children, Toronto.

The colon-conserving concepts described by Martin in total colonic aganglionosis all presuppose that the distal end of the bowel is secured at the anus by the method of Duhamel. Many surgeons prefer a modification of the endorectal operation popularized by Soave when treating shorter segment Hirschsprung’s disease. By combining the principles of the two methods we have evolved a technique in which the colon is anastomosed to the ileum, commencing about 10 cms. proximal to the distal cut end of the ileum, having first pulled the distal 10 cms. through the muscular cuff of the rectum in the manner described by Soave. A temporary ileostomy is made. This method has been used clinically in two cases with gratifying results.

Thus by the use of this new technique the increase in absorptive area is achieved. At the same time the advantages of the endo-rectal pull-through operations are not compromised by any retro-rectal dissection.

268 PERFORATING ULCER IN A REVERSE GASTRIC TUBE.

N. E. Wiseman, University of Manitoba, Department of Surgery, Children’s Hospital, Winnipeg.

A 4 ½ year old boy born with isolated esophageal atresia presented 2 years following a failed Waterston procedure. Replacement of the esophagus was carried out in 2 stages with a retrosternal gastric tube based at the antrum of the stomach. The second stage cervical anastomosis was followed by an anastomotic leak which subsequently became the site of a stricture requiring repeated dilatations. Two years postoperatively a contrast study of the reverse gastric tube revealed narrowing in the midsegment. At 5 years the patient presented with chest pain, fever, and consolidation of the right middle lobe. Investigations at that time revealed an ulcer in the midsegment of the reverse gastric tube at the site of the previous area of narrowing adjacent to which there was an anterior mediastinal abscess. Treatment consisted of drainage of the mediastinal abscess and subsequent resection of the gastric tube at the site of the perforation. Following an 8 month interval during which the patient was swallowing satisfactorily he presented once again complaining of pain in the right side of the chest occurring after meals. Investigations at this time confirmed
Whether anticipated or unexpectedly encountered intraoperatively, appropriate surgical management of duodenal duplication cyst depends upon the surgeon's familiarity with the diagnosis and of course, the location of the cystic duplication.

289 CONGENITAL CERVICAL SALIVARY FISTULA.

Pierre Soucy, F.R.C.S. (C), Children's Hospital of Eastern Ontario.

A case is presented of an infant who had a congenital fistulous opening at the anterior border of the sternomastoid that was indistinguishable in appearance from a branchial fistula, except for the fact the drainage was SEROUS rather than mucous.

At operation, only a short sinus tract was found and excised.

Pathological examination showed ectopic salivary tissue only.

Serous drainage and the absence of a complete fistulous tract to the pharynx as demonstrated by fistulography, may suggest the diagnosis of cervical salivary fistula preoperatively.

A brief review of the literature is presented.
To determine the effect diabetes mellitus has on acute inflammatory processes in children, all diabetic children who underwent operation for acute appendicitis in the last 22 years were identified. Seventeen of the identified 19 charts were available for review. Ages ranged from 4 1/2 to 18 years with a mean of 12 1/3 years. Seven patients (37%) had appendiceal perforation at the time of operation.

Comparison of these patients with year and age-matched non-diabetic children with appendiceal perforation showed a significant difference (p<.05) in presentation (RLQ pain in 85% vs 5%); mean duration of pre-operative symptoms (39 vs 72 hours); mean leukocyte counts (14.4 vs $18.2 \times 10^3/mm^3$); and mean peak temperatures (37.5 vs 36.4°C).

These differences can be correlated to the effect diabetic sensory neuropathy, microangiopathy and delayed leukotaxis.

271 HYDROCOLPOS IN NEWBORN. EASY TO MISS? DIFFICULT TO TREAT?


Hydrocolpos is the result of vaginal obstruction and can become an emergency in the newborn period. The treatment of imperforate hymen is well defined, but the treatment of vaginal atresia is more complex.

We encountered two cases of hydrocolpos secondary to distal vaginal atresia, that were operated on in the first days of life.

One baby had distal atresia without persistence of uro-genital sinus. Surgery combining abdominal perineal approaches and a posterior vaginoplasty was carried out.

The second baby had hydrocolpos with persistence of uro-genital sinus. A drainage through the sinus was unsuccessful because the baby developed sepsis by trapping urine in the uterus. Finally an abdomino-perineal vaginal pull-through was successfully done. The embryology, literature were reviewed. The classification, indication and surgical technique were discussed.

272 SIMULTANEOUS INGUINAL HERNIA REPAIR AND VENTRICULO-PERITONEAL SHUNT IN PREMATURES WITH RAISED INTRACRANIAL PRESSURE.


The number of severely ill premature neonates is increasing. Intracranial and congenital central nervous system defects have resulted in the placement of more and more ventriculo-peritoneal (VP) shunts.
During the past 5 years 40% of premature neonates with VP shunts managed in our Intensive Care Nursery developed large bilateral inguinal hernias. Repair of these hernias required an additional general anesthetic. The defect was technically more difficult to repair than the average infantile hernia and the incidence of recurrence may conceivably be increased.

We suggest that premature babies requiring VP shunts be considered for elective inguinal exploration and hernia repair at the time of insertion of the VP shunt.

273 CHYLOUS ASCITES: AN ETIOLOGY OF PERITONITIS IN INFANCY.

D. L. Loiterman, M.A. Blecher. Division of Pediatric Surgery, Department of Surgery, The Mount Sinai Medical Center, New York City, New York.

A 7-month old child with symptoms and signs of generalized peritonitis was found to have chyloous ascites at laparotomy.

The rarity of this entity has prompted review of the normal anatomy and physiology of the intra-abdominal lymphatic system, in order to delineate the pathophysiology of chyloous ascites. It is doubtful that a child's clinical picture of diffuse peritonitis may suggest this diagnosis, but diagnosis of chyloous ascites may be confirmed by performance of paracentesis.

A treatment algorithm is offered, incorporating all modalities of therapy: exploratory laparotomy with either direct ligation or drainage; median chain triglyceride diet; hyperalimentation and bowel rest; veno-peritoneal shunting.

274 THIRTY YEARS OF PEDIATRIC PRIMARY MALIGNANT LIVER TUMORS.


Since 1950, 47 infants and children from 10 weeks to 16 years presented with primary hepatic malignancy. Signs and symptoms ranged from asymptomatic to those of malignant disease. All patients presented with a palpable abdominal mass. Jaundice was only seen in five, three of whom had pre-existing cirrhosis. Three children had evidence of virilization. Liver function tests were usually normal. Alpha-feto-protein levels, measured in 17 patients, were elevated in 11, and proved a good tumor marker in followup. Hepatic angiography and CAT scan have provided the most valuable preoperative assessment of hepatic architecture. Fifteen in-
fants and children underwent resection for cure; of these, eleven remain disease free six months to 23 years later, most with no further treatment. Six additional patients had incomplete resection with adjunctive radiotherapy and/or chemotherapy. One such infant died six months after resection from sepsis and was free of tumor, another child is disease free past two years. Twenty-six could only be biopsied. Most of those incompletely resected or biopsied died within several months of diagnosis, regardless of what treatment they received. The histology in 39 cases was hepatoblastoma, seven were hepatocellular carcinoma, and one was a primary hepatic rhabdomyosarcoma. The only survivors (past five years) to date have been hepatoblastoma patients. Although the overall survival is low, lesions detected early enough to attempt curative resection have a favorable prognosis. The role of adjunctive chemotherapy and radiotherapy in improving the cure rate has not yet been determined, since it is apparent in this series that a patient cannot be considered “cured” until he or she is tumor free for at least five years.

276 RADIOISOTOPE SPLEEN SCAN — ITS ROLE IN PEDIATRIC SPLENIC TRAUMA.

D. P. Girvan. Division of Pediatric Surgery, War Memorial Children’s Hospital, University of Western Ontario, London.

Preservation of the spleen in children with splenic trauma remains a primary concern to surgeons. Non-operative management of this problem has been encouraged in recent years. This must be tempered against the risk of delayed rupture of the spleen or failure to diagnose other intra-abdominal causes of bleeding.

We reviewed 36 children with a diagnosis of ruptured spleen over a ten year period (1973-1982) at War Memorial Children’s Hospital. Radionuclide scintigraphy of the spleen was carried out in 11 of these children. In those children undergoing splenic scintigraphy, the laparotomy incidence was 45% while in those children not having splenic scintigraphy the rate was 93%.

The use of splenic imaging studies will be reviewed and the indications for laparotomy and the management of splenic injuries discussed. We feel that radionuclide scintigraphy of the spleen is a valuable adjunctive diagnostic test in children with suspected splenic trauma.
282 CYSTIC DUPLICATIONS OF THE ESOPHAGUS AND NEURENTERIC CYSTS.

R. A. Superina, S. H. Ein, R. P. Humphreys. The Hospital for Sick Children, Toronto.

A mediastinal mass with or without vertebral anomalies is usually the hallmark of neurenteric cysts and cystic duplication of the esophagus. This paper reviews the past 25 years experience of these lesions at our hospital. Nineteen infants and children were treated in this period. There were 8 females and 11 males. Nine of these patients were below 1 year of age at presentation, 5 between the ages of 1 and 10 and 5 older than 10. Eleven presented with symptoms referable to the chest and 6 with predominantly neurological symptoms. Two asymptomatic children were referred because of chest masses found incidentally on chest x-rays. Fifteen chest masses were noted; the other four had neurological symptoms only. Fourteen of these 19 lesions had associated vertebral anomalies. Eight patients underwent myelograms and 7 abnormalities were demonstrated, 2 of which were neurologically asymptomatic. Four patients had both myelographic abnormalities and mediastinal masses. Two out of 3 technetium scans were positive. Fourteen thoracotomies and 6 laminectomies were carried out. Nine of the 15 chest masses contained gastric mucosa including 2 which had perforated. None of the intraspinal masses contained gastric mucosa. The long-term survival was 95%. Cystic esophageal duplication and neurenteric cysts can present with a wide spectrum of symptoms and can be life-threatening. In this series, intraspinal anomalies co-existed with mediastinal masses in almost 25% of patients and were often initially asymptomatic. It is recommended that myelography be carried out in all patients with cystic duplications of the esophagus who have vertebral anomalies. Technetium scans may be useful if the diagnosis is obscure.

283 ESOPHAGEAL DUPLICATION CYST CONTAINING A FOREIGN BODY.


Ten to fifteen percent of all alimentary duplications are esophageal. Esophageal duplications are defined as being intimately attached to the alimentary tract, lined by mucous membrane and possessing smooth muscle.
and arteriography. This paper presents three children with significant liver injuries who were conservatively managed. Injuries were found because of changes in physical exam and/or a high index of suspicion. After radiologically defining injuries, these stable patients were treated by strict bed rest placed in intensive care units for observation, and given broad spectrum antibiotics. Serial hematocrits and liver function studies were followed in each case. Transfusions were employed as necessary to keep the hematocrit greater than thirty. All patients did well. Follow-up liver spleen scans showed healing liver lacerations in each case. Liver enzymes which were initially elevated in each case all returned to normal values by the time of discharge. To date, there have been no complications to this conservative management in selected cases. These three cases are added to a list of twenty-six patients in the literature who were also conservatively treated.

279 MICRO SURGERY FOR BRESCHIA-CIMINO FISTULA CONSTRUCTION IN PEDIATRIC PATIENTS.

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External shunt procedures are most commonly used for pediatric hemodialysis angioaccess. Previous series reporting the construction of Brescia-Cimino fistulae in children describe a high rate of immediate and late patency failure.

Using microsurgery we have constructed between December 1980 and December 1982, 23 Brescia-Cimino fistulae in 23 children, 10 weighting less than 20 Kg and 13 weighting more than 20 Kg. An immediate patency rate of 100% was achieved in both weight groups with a late patency rate of 90% and 100% in those under and over 20 Kg respectively.

We recommend using microsurgery for arterio-venous fistulae construction.

280 AIRWAY FOREIGN BODIES IN CHILDHOOD: DIAGNOSTIC ACCURACY.

N. E. Wiseman, University of Manitoba, Department of Surgery, Children’s Hospital, Winnipeg.

Over a 9 year period at the Winnipeg Children’s Hospital 137 patients were treated for foreign body aspiration. In 80% of patients there was a witnessed episode of choking, however only one third of the patients presented with the classic triad of choking, coughing, and wheezing. Early diagnosis (within 24 hours of the onset of symptoms) was made in 46% of patients and was associated with minimal pulmonary morbidity. Delay in diagnosis
(within one week-31%, beyond one week - 23%) resulted in significant pulmonary morbidity. Localization of aspirated foreign bodies proved to be correct in 71.5% of patients on the basis of clinical assessment. Radiographic assessment of the chest correctly localized the foreign body in 70% of patients. As determined at the time of bronchoscopy the localization of the foreign bodies was: right bronchial tree - 48%, left bronchial tree - 39%, trachea - 8%, bilateral - 5%. The type of foreign body aspirated was peanut (39%), sunflower seed (26%), particle food (20%), nonorganic material (15%). All patients had successful bronchoscopic removal of the foreign body.

281 PSEUDOMEMBRANOUS ANTRAL OBSTRUCTION IN INFANCY: FACT OR FICTION?

S. Z. Rubin, G. Gall. Divisions of Pediatric Surgery and Gastroenterology, Alberta Children’s Hospital, Calgary.

Congenital hypertrophic pyloric stenosis is the most common cause of incomplete gastric outlet obstruction in infancy. Rarely a perforated antral membrane will be encountered. The preoperative diagnosis of membranous pyloric antral obstruction is radiological. Our recent experience emphasizes the difficulty of intraoperative diagnosis of this condition in childhood.

Four infants presented with recurrent non bilious vomiting associated with failure to thrive or/and episodes of aspiration pneumonia. An upper gastrointestinal x-ray showed gastric outlet obstruction due to a pyloric antral membrane. Gastroscopy demonstrated difficulty in viewing the pyloris due to a circular narrowing of the pyloric antrum distal to the incisura. A definitive membrane was not defined. At operation no anatomical intramural or intraluminal pathology of the pyloric antrum or pyloric canal was found. Biopsies of the antrum revealed normal gastric tissue. A pyloroplasty was performed. A prompt good response to surgery occurred.

Occasional previous descriptions of pyloric antral obstruction note a similar operative difficulty to ours. The lack of operative photographs and the few histological descriptions tend to emphasize the paucity of operative findings. The suggestion of a pathophysiologlal versus an anatomical obstruction in some patients is made. Irrespective of the pathological finding the benefit of pyloroplasty in these infants is confirmed.
BLUNT HEPATIC TRAUMA IN CHILDREN: EXPERIENCE WITH OPERATIVE AND NON-OPERATIVE MANAGEMENT.


Between 1974 and 1982, 32 children were treated for blunt hepatic trauma. Twenty-three injuries were secondary to motor vehicle accidents. Twenty-three patients had associated injuries.

The hepatic injury was treated surgically in 18 patients. Urgent surgery for massive bleeding was required in 7 patients; 8 patients underwent laparotomy for continued bleeding after initial stabilization; 2 patients underwent laparotomy for marked abdominal tenderness and 1 for an expanding hepatic hematoma. Various excisional, debridement, suture, and drainage procedures were employed. Seven patients died, 5 from uncontrollable bleeding and 2 from associated severe head injury. The 11 survivors did well. The only postoperative complications were 2 wound infections.

Fourteen patients were managed non-operatively. Liver scan provided the diagnosis in all. Five of these patients required blood transfusion, and the mean volume of transfusion was 33 cc/kg. The hospital course in all cases was uneventful, and there were no late complications. Followup liver scan was obtained in 11 patients, showing resolution of the injury in all.

We conclude that laparotomy is necessary for hepatic injury when it is associated with continuous massive bleeding. Hemodynamically stable patients can be managed non-operatively, even when the blood transfusion requirements are significant.

NONOPERATIVE MANAGEMENT OF LIVER INJURIES FOLLOWING BLUNT ABDOMINAL TRAUMA.

E. Grisoni, J. Ferron, R. Izant. Case Western Reserve University, Cleveland, Ohio.

The liver and spleen are the two most commonly injured organs following blunt abdominal trauma. Some patients sustain lacerations and burst injuries resulting in massive intraperitoneal bleeding which requires immediate surgical intervention. Operative goals include hemostasis and drainage of the peritoneum. There are, however, a small group of patients with hepatic injuries who can be managed more conservatively. They are either stable patients with unsuspected lesions or patients who seek medical attention a day or two after their injury. Diagnostic aids employed to define liver trauma included liver spleen scintiscan, ultrasound
A 2 year old girl presented with stridor, cough and respiratory distress, present since birth. Symptoms were progressive and at the time of admission there was intercostal indrawing and dyspnea on exertion. A chest x-ray showed a mediastinal mass displacing the trachea to the right side. Barium esophagogram showed displacement of the esophagus to the left by a space occupying lesion between the trachea and esophagus. Computerized tomography confirmed the presence of this lesion and a smooth oval mass within the cyst itself. Through a low cervical incision and sternal split a duplication cyst containing a bingo chip was successfully excised, its communication with the esophagus was found to be completely obliterated. Subsequent enquiries revealed that the bingo chip was probably swallowed 18 months before surgery. The presence of the foreign body was unsuspected despite computerized tomography. When the bingo chip was imbedded in Agar and computerized tomography of this compared with the initial study, the similarity was evident.

284 THE SURGICAL MANAGEMENT OF PERSISTENT POST-OPERATIVE CHYLOTHORAX IN CHILDREN.

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The advent of oral medium chain triglycerides and total parenteral nutrition has decreased morbidity and mortality and allows successful non-operative management in most cases of post-operative chylothorax.

A newborn premature baby boy weighing 900 grams developed left chylothorax following patent ductus ligation. Chest tube drainage oral medium chain triglycerides and subsequently total parenteral nutrition for 6 weeks were not successful. Ligation of thoracic ducts through a left thoracotomy was curative. A 7 year old boy developed bilateral chylothorax following a Fontan procedure. Over 1500 cc of chyle drained daily; he was treated with total parenteral nutrition. After 6 weeks ligation of the thoracic ducts was done through a right thoracotomy. Chyle drainage completely stopped post-operatively but he died 3 weeks later from septicemia and systemic candidiasis. In this case gross nutrition imbalance and inadequate immunological capability had developed before surgery illustrating the importance of the timing of surgical intervention. Our technique can be done through a right or left thoracotomy. A mass ligature is applied to all structures to the right side of the aorta including the azygos vein just above the diaphragmatic hiatus.
INFECTED THYMIC CYST — AN UNUSUAL CAUSE OF RESPIRATORY DISTRESS IN A CHILD.


A 15 month old male developed acute respiratory distress following a prolonged upper respiratory tract infection. Laboratory and radiological investigations suggested tracheal compression by a malignant anterior mediastinal mass. Following a short course of steroid therapy, urgent exploration of the mediastinum and resection of the mass was carried out; resolution of the airway obstruction was obtained. Histological and bacteriological examination of the lesion revealed it to be a thymic cyst infected by Haemophilus Influenza with abscess formation. This entity has not been previously reported as a cause of acute tracheal compression in the pediatric age group. Whilst this rare histologically benign lesion mimicked the features of the more common malignant mediastinal mass, malignancy must remain the prime concern in such cases of acute progressive tracheal compression.

MULTIPLE PHEOCHROMOCYTOMA — A CASE REPORT AND A REVIEW.

S. A. Youssef, Laurie Ahlgren, Alicia Schiffrin. Divisions of General Surgery and Endocrinology, Depts. of Surgery and Pediatrics Montreal Children’s Hospital and McGill University, Montreal, Quebec, Canada.

Pheochromocytoma, a rare tumor in children is frequently multiple. This is a report of a boy who presented with sequential and simultaneous pheochromocytomas. He was admitted at the age of 7 years for hypertension and papilledema. Investigations showed a high urinary VMA, and a right suprarenal mass on IVP. He required high doses of phenoxybenzamine and nitroprusside preoperatively to control his BP. At surgery, a 35 gms. right adrenal tumor was removed. BP dropped to normal immediately and continued to be normotensive for 2 years. Urinary VMA were within normal limits. At this time, he developed mild headache and hypertension. Urinary VMA became elevated and ultrasonography showed a left adrenal mass. After preoperative preparation with phenoxybenzamine, he underwent surgery. A left adrenal tumor was removed; however, the BP failed to drop, and continued abdominal search revealed a small tumor in the right lumbar sympathetic chain. All proved to be pheochromocytomas. The patient is normotensive with normal VMA six months postoperatively. Since first seen, several calcitonin levels of him and his family were measured and were normal. No other endocrinopathy was found. Medical, anesthetic and surgical management of this patient will be discussed, and literature will be reviewed.
287 IDIOPATHIC POST-OPERATIVE PULMONARY HYPERTENSION.


Pulmonary hypertension causing persistent fetal circulation may occur with other cardio pulmonary disorders in the newborn. Of special interest in pediatric surgery is post-operative pulmonary hypertension (PPH) following repair of congenital diaphragmatic hernia. (PPH) can also occur in association with other surgical procedures. We report a term male infant with a large omphalocele who had normal preoperative cardio respiratory function. Following primary repair he was treated with curarization and assisted ventilation. Ten days postoperatively he continued to show signs of pulmonary hypertension. Cardiac catheterization showed persistent fetal circulation with systemic pressures in the right ventricle and main pulmonary artery and right to left shunting through a patent foramen ovale and ductus arteriosus. He failed to improve despite 100% oxygen therapy and hyperventilation. He had a dramatic response to tolazoline. After a sustained gradual recovery he was discharged home at 3 months of age. He had uneventful repair of bilateral hernias at 6 months of age. PPH should be suspected in an infant who develops unexplained hypoxia despite appropriate respiratory support when other more common cardio-pulmonary causes are excluded.

288 THE SURGICAL MANAGEMENT OF DUODENAL DUPICATION CYSTS SIMULATING PYLORIC STENOSIS.

J. M. Pober, M. A. Bleicher. Division of Pediatric Surgery, Department of Surgery, The Mount Sinai Medical Center, New York City, New York.

A cystic duplication of the duodenum represents a rare congenital anomaly which may simulate idiopathic hypertrophic pyloric stenosis.

Postprandial vomiting and a palpable abdominal “olive-like” mass prompted a misdiagnosis of pyloric stenosis until celiotomy was performed. Although radiographic and endoscopic procedures would distinguish between these two diagnoses, a child with “classical” clinical presentation as pyloric stenosis need not undergo further preoperative evaluation. But as illustrated in this case discussion, duodenal duplication cyst should be considered in a differential diagnosis.
the presence of a recurrent ulcer in the upper third of the gastric tube. The patient was started on oral Cimelidine and this was followed by cessation of the chest pain and radiologic evidence of healing at the ulcer site. In previously reported cases of ulcers occurring in reverse gastric tubes; hematemesis, tube obstruction, and penetration into the pericardium have been described.

269 REGIONAL ANESTHESIA FOR PEDIATRIC MUSCLE BIOPSIES: A SAFE ALTERNATIVE TO GENERAL ANESTHESIA.

S. Z. Rubin, B. Cameron, H. B. Samat. Divisions of Pediatric Surgery and Pathology, Alberta Children’s Hospital, Calgary.

Vastus lateralis muscle biopsy is a simple technical procedure. General anesthesia can be hazardous in young patients with malignant hyperthermia or severe myopathies. Technical difficulty and inaccuracy in performing the muscle biopsy may be encountered in the anesthetized patient due to muscle twitches or contractions. As all the above problems should theoretically be eliminated with local motor nerve and sensory nerve block a trial of regional anesthesia for muscle biopsies was considered appropriate.

During an 18 month period regional anesthesia was used for 27 quadriceps muscle biopsies. Following appropriate premedication local injections of 1% lidocaine hydrochloride were given into the proximal thigh to block the femoral nerve and the lateral cutaneous nerve. Procedures were performed in unit treatment rooms, emergency operating rooms or the general operating room suite.

Analgesia and patient cooperation were good to excellent in 22 patients and satisfactory in a further 4 children. In an uncooperative 8 year old the procedure was terminated after the administration of the local anesthetic agent. No other complaints were recorded.

In the pediatric age group we recommend that regional block be recommended as the analgesia of choice in muscle biopsies.

270 APPENDICITIS IN CHILDREN WITH JUVENILE ONSET DIABETES MELLITUS.

L. Nguyen, L. Ahlgren, R. Schlechter, F. Guttman. The Montreal Children’s Hospital, McGill University.

Delayed chemotaxis, microangiopathy and sensory neuropathy have been implicated in the ineffective control of acute inflammatory processes observed in adult patients with diabetes mellitus. These abnormalities have been observed in children with diabetes.
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