17th

Annual Meeting
Réunion Annuelle

VANCOUVER
September 9-11, 1985

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

programme schedule

VANCOUVER
September 9-11, 1985
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 8, 1985:

WELCOMING RECEPTION

Place: Four Seasons Hotel
       Vancouver, British Columbia

Time:  19:00       RSVP

MONDAY, SEPTEMBER 9, 1985:

C.A.P.S. BANQUET

Place: Four Seasons Hotel
       Vancouver, British Columbia

Time:  19:00       RSVP
FUTURE ANNUAL MEETINGS

18th ANNUAL MEETING
TORONTO, ONTARIO
September 22-25, 1986

19th ANNUAL MEETING
WINNIPEG, MANITOBA
September 11-15, 1987

20th ANNUAL MEETING
OTTAWA, ONTARIO
September 23-27, 1988

21st ANNUAL MEETING
EDMONTON, ALBERTA
September 22-26, 1989
# CANADIAN ASSOCIATION OF PAEDIATRIC SURGEONS

**L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE**

## PRESIDENTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>City</th>
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<tbody>
<tr>
<td>1967-1972</td>
<td>Harvey Beardmore</td>
<td>Montreal</td>
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<tr>
<td>1973-1974</td>
<td>Colin Ferguson</td>
<td>Winnipeg</td>
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<td>1975-1976</td>
<td>Jim Simpson</td>
<td>Toronto</td>
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<td>1977-1978</td>
<td>Sam Kling</td>
<td>Edmonton</td>
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<td>1979-1980</td>
<td>Pierre Paul Collin</td>
<td>Montreal</td>
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<tr>
<td>1981-1982</td>
<td>Barry Shandling</td>
<td>Toronto</td>
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<td>1983-1985</td>
<td>Gordon Cameron</td>
<td>Hamilton</td>
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## SECRETARY-TREASURER

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<th>Year</th>
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<tr>
<td>1967-1973</td>
<td>Barry Shandling</td>
<td>Toronto</td>
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<td>1974-1978</td>
<td>Gordon Cameron</td>
<td>Hamilton</td>
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<td>1978-1983</td>
<td>Frank Guttman</td>
<td>Montreal</td>
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<tr>
<td>1983-</td>
<td>David Girvan</td>
<td>London</td>
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CANADIAN ASSOCIATION OF PAEDIATRIC SURGEONS
L'ASSOCIATION CANADIENNE DE CHIRURGIE INFANTILE

DIRECTORS

President
Past President
3rd of Three Years
2nd of Three Years
1st of Three Years
Secretary-Treasurer

Gordon Cameron
Barry Shandling
Alexander Gillis
Raymond Cloutier
Sigmund Ein
David Girvan

COMMITTEE CHAIRMAN

Nominating
Programme
Local Arrangements
Membership and Credentials
Publications
Health Care & Manpower
Ethical and Moral Issues
Education Fund
Liaison to the Royal College
Archivist
World Federation
Constitution and Bylaws
Trauma
Oncology
Congenital Anomalies

Barry Shandling
Sigmund Ein
Graham Fraser
Geoff Seagram
Don Marshall
Stan Mercer
Murray Fraser
Ray Postuma
Gordon Cameron
Barry Shandling
Barry Shandling
Alexander Gillis
David Wesson
Herve Blanchard
Nate Wiseman
**Canadian Association of Paediatric Surgeons**

**L'Association Canadienne de Chirurgie Infantile**

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<th>Mon/lun Sep 9</th>
<th>0800</th>
<th>GARIBALDI (Four Seasons)</th>
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**Abstract/Résumé**

**No.**

R928 0800 **Partial Splenectomy for Benign Cystic Lesions of the Spleen:** Abid H. Khan, Arié L. Bensoussan, Alain Ouimet, Hervé Blanchard, Andrée Grignon, Mamadou Ndoye, Département de chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal

R929 0815 **The Prognosis of Traumatic Asphyxia in Childhood:** G.K. Blair, L. Gorenstein, B. Shandling, The Hospital for Sick Children, Toronto

R930 0830 **Traumatic Duodenal Hematoma in the Pediatric Patient:** A. Winthrop, D.E. Wesson, R.M. Filler, The Hospital for Sick Children, Toronto

R931 0845 **Omphalocele: A 25 Years Experience:** Salam Yazbeck, Mamadou Ndoye, Abid Khan, Département de chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal

R932 0900 **Neonatal Gastrochisis - Winnipeg Experience:** N.E. Wiseman, Children's Hospital, Winnipeg, Department of Surgery, University of Manitoba, Winnipeg

R933 0915 **Repair of Gastrochisis with Preservation of the Umbilicus:** D.E. Wesson, T. Baesl, The Department of Surgery, The Hospital for Sick Children and the University of Toronto, Toronto

R934 0930 **Bowel Perforation with Non-Operation Treatment of Meconium Ileus:** Sigmund H. Ein, Clinton A. Stephens, Bernard J. Reilly, Barry Shandling, Hospital for Sick Children, Toronto
MECONIUM ILEUS: OSTOMY OR NOT OSTOMY?: L.T. Nguyen, F.M. Guttmann, S. Youssef, J-M. Laberge, McGill University, The Montreal Children's Hospital and University of Montreal, Sainte-Justine Hospital, Montreal

BILIARY LIPIDS IN NEONATES ASSOCIATED WITH FASTING, CRITICAL ILLNESS AND TOTAL PARENTERAL NUTRITION: A. Alrabeelah, O.G. Thurston, K. Walker, Department of Surgery and Medical Biochemistry, University of Alberta, Edmonton

HOME ENTERAL NUTRITION AS PREPARATION FOR SURGERY OF COMPLICATED CROHN'S DISEASE: D.E. Wesson, G.K. Blair, M. Yamen, The Department of Surgery, The Hospital for Sick Children and the University of Toronto, Toronto

THROMBOSIS AND INFECTION COMPlicATING CENTRAL VENOUS CATHETERIZATION IN NEONATES: E.R. Grisoni, S. Mehta, A.F. Connors, Jr., Cleveland Metropolitan General Hospital, Case Western Reserve University, Cleveland, Ohio, USA

BROVIAC SILASTIC CATHETER INSERTION IN VERY SICK PREMATURE BABIES: J. Barkun, L.T. Nguyen, F.M. Gutman, J-M. Laberge, McGill University, The Montreal Children's Hospital, Montreal

CHAIRMAN/LE PRÉSIDENT: GORDON S. CAMERON, Hamilton

1100 FRED McLEOD LECTURE

DISEASES OF THE BILIARY TRACT IN THE PEDIATRIC AGE GROUP

Peter Jones, Consultant
Royal Children's Hospital
Melbourne, Australia
canadian association of paediatric surgeons

l’association canadienne de chirurgie infantile

Mon/lun Sep 9 1400 GARIBALDI
(Four Seasons)

CHAIRMAN/LE PRÉSIDENT: SALAM YAZBECK, Montreal

ABSTRACT/RÉSUMÉ

R940 1400 SCIMITAR SYNDROME: Abid H. Khan, Pierre P. Collin, Paul Stanley, Claude Chartrand, Ronald Guérin, Département de chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal

R941 1415 DÉVELOPPEMENT DE LA TRACHÉE CHEZ LE CHIOT APRÈS RÉSECTION ÉTENDUE: Hervé Blanchard, Pierre Brochu, Aré L. Bensoussan, Gaétan Lagacé, Abid H. Khan, Département de chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal

R942 1430 TREATMENT OF TRACHEOMALACIA: EIGHT YEARS EXPERIENCE: G.K. Blair, R.C. Cohen, R.M. Filler, The Department of Surgery, The Hospital for Sick Children and the University of Toronto, Toronto


R944 1500 SCROTAL ORCHIOPEXY: A SIMPLE OPERATION FOR HIGH SCROTAL UNDESCENDED TESTES: G.S. Cameron, McMaster University Medical Centre, Hamilton

R945 1515 THE CHANGING SCENE IN HYPOSPADIAS: E. Durham Smith, Royal Children’s Hospital, Melbourne, Australia
R946 1530 HYDROSTATIC REDUCTION OF INTUSSUSCEPTIONS CAUSED BY LEAD POINTS: Sigmund H. Ein, Bernard J. Reilly, David, A. Stringer, Hospital for Sick Children, Toronto

R947 1545 INTUSSUSCEPTION DUE TO LYMPHOSARCOMA: S.H. Ein, C.A. Stephens, B. Shandling, R. Filler, Hospital for Sick Children, Toronto

R948 1500 *DIAGNOSING APPENDICITIS IN PEDIATRIC PATIENTS: R. Postuma, S. Beek, Department of Surgery, University of Manitoba and Children's Hospital, Winnipeg


R950 1630 THE USE OF THE INTERNAL MAMMARY ARTERY FOR PRESERVATION OF THE CIRCULATION TO THE LEFT ARM FOLLOWING SUBCLAVIAN FLAP AORTOPLASTY IN CORRECTION OF COARCTATION IN CHILDREN: A. Fournier P. Stanley, A. Davignon, C. Chartrand, Hôpital Sainte-Justine, Université de Montréal Montréal

R951 1645 PEDIATRIC SURGERY IN BANGLADESH: C. Bagwell, B. Shandling, The Hospital for Sick Children, Toronto
canadian association of paediatric surgeons

l'association canadienne de chirurgie infantile

| CHAIRMAN/LE PRÉSIDENT: MICHAEL GIACOMANTONIO, Halifax |

| ABSTRACT/RÉSUMÉ NO. |

| R952 0800 CONGENITAL DIAPHRAGMATIC HERNIA: THE IMPORTANCE OF AVOIDING BAROTRAUMA: Salam Yazbeck, Normand Gervais, Département de chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal |

| R953 0815 ANTIREFLUX SURGERY IN INFANTS WITH BRONCHOPULMONARY DYSPLASIA (BPD): R.M. Giuffre, S. Rubin, I. Mitchell, Alberta Children's Hospital and University of Calgary, Calgary |

| R954 0830 ANTENATAL DIAGNOSIS OF SACROCCCYGEAL TERATOMAS - IMPLICATIONS FOR MANAGEMENT: E.R. Grisoni, M.W.L. Gauderer, M.M. Olsen, M.N. Jassani, R.N. Wolfson, High Risk Perinatal Centers, Case Western Reserve University School of Medicine, Cleveland, Ohio, USA |

| R955 0845 MALIGNANT OVARIAN TUMORS IN CHILDHOOD - 37 CASES IN 37 YEARS: Sigmund H. Ein, Moira Gribbin, Kent Mancer, The Hospital for Sick Children and The Princess Margaret Hospital, Toronto |

| R956 0900 FAMILIAL SMALL BOWEL ATRESIA: Sigmund Ein, Ian Young, Richard Kennedy, The Hospital for Sick Children, Toronto and Janeway Child Health Center, St. John's |

| R957 0915 FAMILIAL POLYPOSIS COLI IN CHILDHOOD: S. Rubin, D. Forbes, C. Trevenen, G. Gall, B. Scott, Alberta Children's Hospital, and University of Calgary, Calgary |
R958 0930 OCCULT COIN PERFORATION OF THE ESOPHAGUS: J.S. Janik, C.W. Bailey, J.D. Burrington, The Children's Hospital, Denver, Colorado, USA

R959 0945 GASTRIC PERFORATION IN THE VENTILATED INFANT WITH TRACHEOESOPHAGEAL FISTULA: N.E. Wiseman, Children's Hospital, Winnipeg and Department of Surgery, University of Manitoba, Winnipeg

R960 1000 THE LATE NON-FUNCTIONING DUODENAL ATRESIA REPAIR: Sigmund, H. Ein, Barry Shandling, The Hospital for Sick Children, Toronto

R961 1015 AMBROISE PARÉ - PEDIATRIC SURGEON: Charles E. Bagwell, UMDNJ/ Rutgers Medical School at Camden, Camden, New Jersey, USA

R962 1030 IMPROVING RESULTS FROM NERVE AND MUSCLE BIOPSY IN CHILDREN: PART II: TECHNICAL CONSIDERATIONS IN THE HARVESTING OF SPECIMENS: Pierre Soucy, Department of Surgery, Pierre Jacob, Department of Pediatrics, Carmencita Jimenez, Department of Pathology, Children's Hospital of Eastern Ontario, Ottawa

R963 1045 MELANOMA IN CHILDREN AND ADOLESCENTS IN ALBERTA, 1955-1985: W.J. Temple, F. Alexander, L. Marx, L.M. Jerry, Tom Baker Cancer Centre, Department of Surgery, University of Calgary, Calgary

1100 COFFEE INTERMISSION/PAUSE-CAFÉ
canadian paediatric society
la société canadienne de pédiatrie

Tue/mar Sep 10  1100  REGENCY EAST
(Hyatt Regency)

CHAIRMAN/LE PRÉSIDENT: VICTOR MARCHESSAULT, Ottawa

1100  CANADIAN ASSOCIATION OF PAEDIATRIC
SURGEONS LECTURE

A SURGEON LOOKS AT PEDIATRICS AND PEDIATRICIANS

Phillip G. Ashmore
Chief of Surgery
British Columbia's Children's Hospital
Vancouver
symposium
pediatrics/pédiatrie

(simultaneous interpretation/interprétation simultanée)

Royal College in cooperation with the Canadian Paediatric Society and the Canadian Association of Paediatric Surgeons

Le Collège Royal en collaboration avec la Société canadienne de pédiatrie et l’Association canadienne de chirurgie infantile

Tue/mar Sep 10 1400 REGENCY EAST (Hyatt Regency)

CHILDHOOD TUMORS — THE MULTIDISCIPLINARY APPROACH
TUMEURS DE L’ENFANT — APPROCHE MULTIDISCIPLINAIRE

CHAIRMAN/LE PRÉSIDENT: MARK L. GREENBERG, Toronto

HODGKIN’S DISEASE

(a) THE ROLE OF SURGICAL STAGING:

(b) CHEMORADIOThERAPy VERSus CHEMOTHERAPy ALONE:

Sigmund H. Ein, Associate Professor of Surgery, University of Toronto, Toronto
Christopher J. Fryer, Head of Pediatric Oncology, Cancer Control Agency, Vancouver
Mark Bernstein, Associate Professor of Pediatrics, McGill University, Montreal

RHABDOMYOSARCOMA

THE ATTEMPT TO AVOID MUTILATING THERAPY:

Nathan Kobrinsky, Assistant Professor, Department of Pediatrics, University of Manitoba, Winnipeg
Peter Jones, Consulting Pediatric Surgeon, Royal Children’s Hospital, Parkville, Victoria, Australia
Christopher Fryer, Vancouver

ADVANCED NEUROBLASTOMA

TRANSPLANTATION OR AGGRESSIVE MULTIMODAL THERAPY:

Sheila Weitzman, Assistant Professor, Pediatric Oncologist, University of Toronto, Toronto
Robert M. Filler, Professor of Surgery, University of Toronto, Toronto
Christopher Fryer, Vancouver
canadian association
of paediatric surgeons

l'association canadienne
de chirurgie infantile

Wed/mer Sep 11  0900  CHILDREN'S HOSPITAL

CHAIRMAN/LE PRÉSIDENT: SIGMUND H. EIN, Toronto

ABSTRACT/RÉSUMÉ

R964  0900  ADENOCARCINOMA OF THE PANCREAS IN A BABY MANAGED BY PANCREATODUODENECTOMY: R. Hampton Rich, James L. Weber, Barry Shandling, Department of Surgery, The Hospital for Sick Children, Toronto

R965  0910  CHYLOTHORAX AFTER REPAIR OF CONGENITAL DIAPHRAGMATIC HERNIA: S. Mercer, Department of Surgery, Children’s Hospital of Eastern Ontario, University of Ottawa, Ottawa

R966  WITHDRAWN BY AUTHOR

R967  0920  FUNDOPPLICATION IN THE STAGED REPAIR OF POOR-RISK ESOPHAGEAL ATRESIA WITH DISTAL TRACHEOESOPHAGEAL FISTULA: S. Ogita, K. Tokiwa, T. Takahashi, Division of Surgery, Children’s Research Hospital, Kyoto Prefectural University of Medicine, Kyoto, Japan

R968  0930  HEMANGIOMA OF THE OVARIIES IN INFANCY AND CHILDHOOD: James C. Donald, G.A. Machin, Departments of Surgery and Pathology, Victoria General Hospital, Victoria, British Columbia

R969  0940  TWO BOYS WITH FOUR PHEOCHROMOCYTOMAS: Sigmund H. Ein, Donald G. Marshall, Hospital for Sick Children, Toronto and Department of Surgery, University of Western Ontario, London

CHAIRMAN/LE PRÉSIDENT: GRAHAM FRASER, Vancouver

1000-1200  PROBLEM CASES
canadian association of paediatric surgeons

l'association canadienne de chirurgie infantile

Tue/mar Sep 10 1630 REGENCY EAST (HYATT REGENCY)

CHAIRMAN/LE PRESIDENT: GORDON S. CAMERON, Hamilton

1630 ANNUAL BUSINESS MEETING
REUNION D'AFFAIRES ANNUELLE
abstracts
THE PROGNOSIS OF TRAUMATIC ASPHYXIA IN CHILDHOOD
G. K. Blair, L. Gorenstein, B. Shandling
The Hospital for Sick Children, Toronto, CANADA

Sixteen children with traumatic asphyxia were admitted to our
hospital between 1974-1984. The mechanism of injury in all cases
was the result of intense pressure applied to the chest. The clinical
picture is unmistakable, with the typical facies of a patient with
traumatic asphyxia.

Associated injuries were sustained by ten patients; eight had
significant chest injuries, seven had acute neurologic changes.
There were three with liver lacerations. One patient had an
epileptiform convulsion. Treatment in all cases was supportive
with or without steroids for CNS injury, three required ventilation
for hypoxic cerebral insult. One child died due to cerebral anoxia;
another succumbed to massive intraabdominal injury. All other patients
recovered fully, none with subsequent seizure manifestations. With
psychometric evaluation in follow-up, patients were found to be of
normal intelligence.

Despite its alarming clinical features, children who have had traumatic
asphyxia do well and sequelae are minimal. Morbidity is related to the
duration of sustained hypoxia during trauma and to associated injuries.

TRAUMATIC DUODENAL HEMATOMA IN THE PEDIATRIC PATIENT. A. Winthrop,

Eighteen children with duodenal hematomas secondary to blunt abdomi-
nal trauma were treated between 1953 and 1983. There were 8 boys and
10 girls (ages 2.5 - 15 years). Nine had an isolated duodenal injury.
The remaining 9 had other intra-abdominal injuries as well (7 pancrea-
tic, 4 mesenteric, 3 jejunal, 1 hepatic).

In 8, the duodenal injury was suspected on admission, and the diag-
nosis was confirmed within 24 hours by radiographic contrast studies.
All 8 were managed successfully with nasogastric suction and intrave-
nous fluids. Ten patients underwent laparotomy for increasing abdomi-
nal tenderness and guarding. An isolated duodenal hematoma was found
in 4, and was treated by evacuation and/or gastroenterostomy. In 5
of the remaining 6 surgical patients, all of whom had multiple intra-
abdominal injuries, the duodenum was left untouched. Three of these
patients had contrast studies postoperatively showing early resolution
of the duodenal hematoma.

Duodenal stricture or leak did not develop in any patient.

In the children with an isolated duodenal hematoma, the mean length
of hospital stay was 6 days (3 - 12) in those treated conservatively,
and 17 days (11 - 24) in those treated surgically. The mean length of
hospital stay in the 9 patients with multiple intra-abdominal injuries
was 31 days (10 - 51). Seven in this group required total parenteral
nutrition or nasojejunal feeds for nutritional support.

An isolated duodenal hematoma results in minimal morbidity. There is no
obvious advantage to surgical treatment. The presence of associated
intra-abdominal injuries is responsible for the prolonged hospitalization
and delayed return of normal intestinal function in many of the patients.
REPAIR OF GASTROCHISIS WITH PRESERVATION OF THE UMBILICUS.
D.E. Wesson, T. Baezl, The Department of Surgery, The Hospital for Sick Children and the University of Toronto, Toronto.

We have developed a simplified technique for the repair of gastrochisis which can be done without the need to excise the umbilicus or make a fascial incision.

First, the umbilical stump is cut just beneath the cord clamp. The abdominal wall is then manually stretched to enlarge the abdominal cavity and the viscera are replaced into the abdomen. Next, the skin is elevated from the fascia for 1.5 cm. around the defect which allows the fascia to be closed transversely with interrupted Dexon sutures. The most medial stitch is placed close to the umbilical stump which is not excised. The skin is also re-approximated transversely to complete the repair. Routine cord care is given post-operatively.

During a two year period, 9 newborns were seen with gastrochisis. One required a Silon pouch to close the defect. The other 8 had moderate sized defects that were repaired primarily using this simplified technique. The babies averaged 38 weeks gestation (36 - 40 weeks) and 2.65 kg in weight (2.1 - 3.4 kg). The average hospital stay was 33 days. There were no cases of omphalitis or cellulitis of the abdominal wall. Each was left with a normal appearing umbilicus post-operatively. One has a small umbilical hernia.

Our experience shows that this new technique for the repair of gastrochisis is quicker, less traumatic and gives a better cosmetic result than the conventional method.

Bowel Perforation with Non-operative Treatment of Meconium Ileus
Sigmund H. Ein, Clinton A. Stephens, Bernard J. Reilly, Barry Shandling
Hospital for Sick Children, Toronto, Ontario, Canada

In 1973, we first used water-soluble contrast enemas to try and relieve meconium ileus, and over the last 11 years 22 neonates were so treated. All presented with clinical findings of a bowel obstruction, confirmed by x-rays, and each eventually had high serum chloride levels. Each neonate had from one to four water-soluble contrast enemas administered slowly by syringe over 15 to 30 minutes. Eight enemas were successful in relieving the obstruction, four newborns requiring only one enema. Fourteen were unsuccessful, three having more than one enema. Seven of these 14 had intra-abdominal pathology that required a laparotomy, while two had no intraabdominal pathology that would have required surgery. In five babies the bowel was perforated by the enema, the colon in three and terminal ileum in two. These perforations were all immediately recognized during the course of the enema and operated on forthwith; a stoma was made in four cases. Only one of these five babies would have required an operation because of a volvulus. There were no fluid or electrolyte disturbances caused by the contrast material, and none of the babies with perforations died. Although this enema technique was successful in one third of cases, and despite the fact that perforations ensued in one quarter of cases, the procedure still seems warranted if the following precautions are taken.
MECONIUM ILEUS: OSTEOTOMY OR NOT OSTEOTOMY?. L.T. Nguyen, F.M. Guttman, S. Youssef, J-M. Laberge, McGill University, The Montreal Children's Hospital and University of Montreal, Sainte-Justine Hospital, Montreal

During the 15 years from 1970 to 1984, 38 infants were treated for meconium ileus. All of them have cystic fibrosis.

There were 13 patients (34%) who had complicated meconium ileus that included: (a) 7 perforations (2 colon + 5 ileum), (b) 4 volvulus, (c) 2 atresia and meconium pseudocyst. In this group, various operations were done (Resection with primary anastomosis for atresia or resection with enterostomy for peritonitis. One died shortly after surgery. Twenty-five patients (66%) had uncomplicated meconium ileus. One died shortly after arrival by respiratory distress. Gastrografin enema was attempted on 20 patients with 8 successes (40%): (a) 9 were treated by laparotomy and ileostomy with or without bowel resection, (b) 1 patient had laparotomy and T-tube for irrigation, (c) 6 patients were treated by laparotomy and enterostomy for irrigation by mucostomy and evacuation. No one succumbed in this group.

The latter method of management is recommended for patients with simple, uncomplicated meconium ileus.

BILIARY LIPIDS IN NEONATES ASSOCIATED WITH FASTING, CRITICAL ILLNESS AND TOTAL PARENTERAL NUTRITION. A. Allrabeesh, O.G. Thurston, K. Walker, Department of Surgery and Medical Biochemistry, University of Alberta.

In this study we have examined biliary lipids (total bile acids, phospholipid and cholesterol) in neonates in an intensive care unit in an attempt to separate the effects of total parenteral nutrition (TPN) from those of prolonged fasting on biliary lipids.

Duodenal bile for lipid analysis was obtained by intubation from 13 neonates (average weight = 1938 g) fasting 3 - 6 days prior to starting TPN and from 17 neonates (average weight = 2378 g) receiving TPN (glucose-Intralipid-Travasol) for up to 49 days as their only nutrition.

Biliary cholesterol rose abruptly from unsaturated levels to supersaturated levels during 6 days of fasting prior to the initiation of TPN (y = -18.7 + 7.4x, r = 0.90). Mean cholesterol as a percent of total biliary lipids for this group was 14.2 ± 2.0 (SEM). The initiation of TPN appeared to have an early beneficial effect on biliary lipid composition as percent cholesterol fell to 10.4 ± 1.9 in patients tested at 14 days but later rose to 18.7 ± 1.9 percent in patients studied at 21 - 49 days (p < 0.01) indicating bile extremely supersaturated with cholesterol.

The results of this study suggest that the neonatal liver is unable to produce a bile capable of solubilizing cholesterol beyond a 2 - 3 day fast. TPN initiated during the fasting state actually lowers biliary cholesterol for approximately 2 weeks but beyond that time biliary cholesterol rises again to the extreme levels seen in the prolonged fasting state. In conclusion it is possible to state that prolonged fasting raises biliary cholesterol in neonates to extreme levels and that TPN with glucose-Intralipid-Travasol has a modifying effect on these levels of cholesterol at least during the first 14 days.
HOME ENTERAL NUTRITION AS PREPARATION FOR SURGERY OF COMPLICATED CROHN'S DISEASE. D.E. Wesson, G.K. Blair, M. Yamen, The Department of Surgery, The Hospital for Sick Children and the University of Toronto, Toronto.

Children who present with complicated Crohn’s disease are often poor surgical candidates because of concomitant infection, steroid administration or malnutrition. Eleven such patients, aged 10 – 18 years, in whom surgical treatment was indicated were given Home Enteral Nutrition (HEN) for periods of 2 – 3 months in preparation for operation. Indications for surgery comprised abscesses or fistulae in four, growth failure and/or continued pain in six and obstruction in two (1 with a concomitant fistula). All received a commercially prepared liquid elemental diet administered nightly via a nasogastric feeding tube in amounts calculated to meet their full nutritional requirements.

All patients showed some improvement. All fistulae closed temporarily. Nutritional status improved as measured by height, weight and/or serum albumin. Steroid dose was lowered or eliminated in all.

Seven patients subsequently had operations, four declined surgery because of symptomatic improvement. There were no significant surgical complications.

Pre-operative HEN in patients with Crohn’s disease may provide: (1) a safe and inexpensive means to improve nutritional status, (2) decrease or elimination of steroid doses, (3) symptomatic relief and, (4) more elective timing of operation while allowing the patient to return to school and other normal activities.

THROMBOSIS AND INFECTION COMPPLICATING CENTRAL VENOUS CATHETERIZATION IN NEONATES E. R. GRISONI, M.D., S. MEHTA, M.D., A.F. CONNORS, Jr. M.D. Cleveland Metropolitan General Hospital, Case Western Reserve University, Cleveland, Ohio 44109

Premature neonates may be at increased risk of thrombotic and infectious complications of central venous catheterization. We reviewed the records of 107 neonates who received Broviac catheters during a four year period. Forty five neonates (42%) had one or more complication. Thrombosis was documented by either venography, echocardiography or direct visualization (14;13%) or was diagnosed clinically on the basis of head, neck or arm edema associated with an obstructed catheter, which resolved after its removal (9;8%). Catheter related infections were documented by either a positive culture of the catheter tip, insertion site cellulitis or a positive blood culture drawn through the catheter (11;10%). Positive blood cultures not associated with simultaneous positive catheter culture were considered coincident infections (9;8%). Eight neonates (7%) had catheter malfunction. Infants with complications had lower birth weight (1.07±0.07 vs 1.58±0.10 Kg.) and gestational age (28.5±0.5 vs 30.8±0.6 Wks.), a longer duration of catheter placement (5.2±0.4 vs 4.3±0.4 Wks.), and more catheterizations (1.6±0.2 vs 1.0±0.1) than infants without complications (p<0.05). Infections, related to or simply coincident with catheterization, occurred more frequently in infants with prolonged catheterization (6.3±0.7 vs 4.3±0.4 wks., p<0.01). However, the duration was not significantly different in the group with documented thrombosis. We conclude that severe prematurity and prolonged or repeated catheterization increase the risk of complications in neonates with central venous catheter.
BROVIAC SILASTIC CATHETER INSERTION IN VERY SICK PREMATURE BABIES.


The administration of high caloric solutions by central venous catheter has become a major part of the treatment of very sick infants. The introduction of Broviac Silastic catheter has been an excellent contribution. Originally, Broviac suggested insertion of the catheter by either a subclavian venipuncture or by cephalic vein catheterization. This report summarizes our technique using the superficial external jugular vein and under local anesthesia in 15 very sick premature babies with: (a) gastro-intestinal conditions, (b) respiratory conditions, (c) necrotizing enterocolitis, and who underwent Broviac Silastic catheter placement under local anesthesia from January, 1983 to January, 1985. The infants were 25-34 weeks gestation and their birth weights ranged from 740 Gm to 2000 Gm (11 infants were less than 1000 Gm and 3 infants were less than 1500 Gm). Lines were surgically placed, under local anesthesia, in the patients in the Newborn Intensive Care Unit and were maintained by sterile technique: (a) 1 via left external jugular vein, (b) 1 via left internal jugular vein, (c) 1 via right external jugular vein. The duration of the catheter ranged from 19-157 days. Only TPN solutions were administered via the catheter. Occasionally, blood was sampled through the line. Catheter care was carried out by well-trained nursing staff. A major complication was seen in only one patient who developed thrombosis of the superior vena cava and bilateral chyl thorax. No infectious complication was noted.

Our preliminary data showed that Broviac catheters can be inserted, under local anesthesia, and maintained safely on the ward without technical difficulty and with low risk complications.

R940 - ABSTRACT NOT AVAILABLE FOR PUBLICATION

DEVELOPPEMENT DE LA TRACHEE CHEZ LE CHIOT APRES RESECTION ETENDUE.

Hervé Blanchard, Pierre Brochu, Arié L. Bensoussan, Gaétan Lagacé, Abid H. Khan, Département de Chirurgie, Hôpital Sainte-Justine, Université de Montréal, Montréal.

Par la morphologie, morphométrie et l'histologie, le développement de la trachée de chiots a été étudié après une résection étendue. Quinze chiots bâtards de 12 semaines pesant 5.5 kg ont été opérés. Sous anesthésie au fluthane, par une cervicotomie médiane, 10 chiots (GE) ont eu une résection des 14 premiers anneau trachéaux (moyenne 5.08 cm), (35 à 38% de la longueur trachéale). Anastomose est faite en un plan au Vicryl 4.0 sous une tension moyenne de 1.450 g. Cinq chiots (GC) ont eu une section totale et anastomose. 1) morphologie externe: a) trachée GE a une forme cylindrique plutôt qu'ovale chez les GC, b) augmentation des espaces inter-annulaires; interne: a) lumière GE arrondie plutôt qu'ovale, b) absence de tissu de granulation, c) trois "Néuds" muqueux dans GE et un dans GC. 2) morphométrie: a) longueur trachéale: GE moyenne 13 cm, GC moyenne 17.7 cm, b) espaces inter-annulaires: GE 3.08 mm, GC 1.3 mm, c) membrane crico-thyroïdienne: GE 1.2 cm, GC .53 cm, d) épaisseur anastomose sagittale et transversale: GE 2.6 et 3.3 mm, GC 2 et 1.5 mm, d) diamètre sagittal et transversal externe et interne inférieur en moyenne de 2 mm dans GE. 3) histologie: la fibrose au niveau de l'anastomose a varié de légère à modérée. Les chondrocytes des anneau cartilagineux du GE ont présenté des modifications légères.

Malgré la forte tension anastomotique, les chiots se sont développés sans évidence de sténose. Le taux de croissance de l'anastomose, dans l'axe sagittal et transversal, GE représente respectivement 90 et 85% du taux de croissance du groupe GC.

Between 1978 and 1985 21 patients were treated for tracheomalacia, (Group I) and 4 for tracheo-bronchomalacia (Group II). The median age at treatment was 7 months (range 1 - 96 months).

Indications for surgery in Group I were, "dying spells" (n=12), recurrent pneumonia (n=4), intermittent respiratory obstruction (n=3) and inability to extubate airway (n=2): 18 had esophageal atresia repair. Treatment in Group I was aortoplasty (n=19), 3 of whom also required an external airway splint; 2 had an airway splint only. Airway obstruction was relieved in all.

Group II patients required surgery because they could not be extubated; none had esophageal atresia. Aortoplasty in all and splinting in 1 failed in 3 of 4 patients.

Aortoplasty is the primary treatment of tracheomalacia. External airway splinting may be used where aortoplasty is inadequate. A satisfactory treatment for tracheo-bronchomalacia has not yet been devised.

R.943


The accuracy of ultrasound examination in preoperative localization of the undescended testicle was compared to the anatomical site of the testes at operation. Over a 2½ year period, 51 patients ranging in age from 1 month to 13 years with 57 undescended testes were examined by ultrasound. Both static B-mode and real-time scanners were used. Results are as follows:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Testes Present</th>
<th>Testes Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inguinal Exploration</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>Clinical &quot;Palpated&quot;</td>
<td>41</td>
<td>7</td>
</tr>
<tr>
<td>&quot;Not Palpated&quot;</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ultrasound &quot;Seen&quot;</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Not Seen&quot;</td>
<td>16</td>
<td>7</td>
</tr>
</tbody>
</table>

Testes not seen on ultrasound but found at operation were ectopic in location. Clinical examination by the radiologist and extension of the sonographic examination to include all ectopic sites will allow more accurate detection of the testis. In those 5 patients with false positive sonographic examinations, the testicle was either absent or located intra-abdominally. Lymph nodes or muscle may be mistaken for the small undescended testis. All 4 testes "not palpated" but found at operation were "seen" preoperatively by ultrasound. A palpable testis does not require ultrasound examination. Testicular visualization by ultrasound in the questionably palpable testis is beneficial to the surgeon in directing the extent and site of the operation. A negative ultrasound implies that the surgeon and the family must be prepared for more extensive surgery which may include abdominal as well as inguinal exploration.
SCROTAL ORCHIOPEXY: A SIMPLE OPERATION FOR HIGH SCROTAL UNDESCENDED TESTES. G. S. Cameron, McMaster University Medical Centre, Hamilton.

A small percentage of children presenting with undescended testis are found to have, in the superficial inguinal pouch, (a testis), which can be pushed down into high or midscrotum but no further. Often there is a reliable history that the testis was in a normal position in early childhood, suggesting that the cord remained short during growth and raised the testis from a normal position. Some pediatric surgeons believe that these testes will fully descend before puberty. Such expectant management causes anxiety to child, parents, and surgeon. Often orchiopexy is later required, and the delay may jeopardize development of the testis.

A simple orchiopexy through a scrotal incision has been done in 14 such children aged 6 years to 12 years. Lengthening of the spermatic cord was achieved easily. In 4 cases, there was fibrous adhesion to the pubis. In the others the external spermatic fascia, cremasteric muscle, internal spermatic fascia, and fibrous remnant of the processus vaginalis were short. In only one case was there probe-patency of the processus. The testis was moored in a subcutaneous scrotal pocket.

One case failed, and needed a secondary inguinal orchiopexy. The other 13 have all had excellent results with an apparently normal testis in a normal scrotal position.

This simple technique is recommended for children with a high scrotal undescended testis.

THE CHANGING SCENE IN HYPOSPADIAS. E. Durham Smith, Royal Children's Hospital, Melbourne.

The last 10 years have seen a dramatic change in the quality of results in hypospadias repair. Any incidence of fistula, or an orifice short of the tip is unacceptable.

New emphases include:

1. a better understanding of chordee, in which skin shortening and deep fascial connections are more important than a simple "chordee band". These elements extend proximal to the orifice as well.

2. radical correction through to the tip is now offered to coronal orifices, and incision into the glans itself to achieve this does no harm.

3. satisfactory one-stage repairs are available for distal orifices, but if there is chordee, or/and proximal orifices the author prefers a two staged repair to assure complete chordee correction before fashioning the urethral tube.

4. suprapubic stab cystotomy for diversion

5. author's results - 9 fistulas (1.8%) in 503 repairs.
Hydrostatic Reduction of Intussusceptions Caused by Lead Points
Sigmund H. Ein, Bernard J. Reilly, David A. Stringer
Hospital for Sick Children, Toronto, Ontario, Canada

It is an accepted fact that if an intussusception is caused by a lead point, it will not be reduced by hydrostatic barium enema. This was reported several years ago, and has continued to be a consistent finding, allowing us to attempt hydrostatic barium enema reductions in infants and children with repeated intussusceptions and in older children with intussusceptions. However, in the last 10 years we have treated three children whose ileocolic intussusceptions were caused by lead points and yet the intussusceptions were reduced by hydrostatic barium enema. Their histories and exams were not any different than those of the average pediatric patient with an intussusception. At hydrostatic barium enema examination, the ileocolic intussusception was reduced with adequate reflux of barium into the terminal ileum. However, there remained in all a filling defect in the ileocaecal area that made laparotomy mandatory. In all three cases a lead point (meckel’s, duplication, lymphosarcoma) was found and resected. Therefore any intussusception which seems to be successfully reduced by hydrostatic barium enema, but an unusual filling defect remains in the xray must be considered as caused by a lead point and therefore requires a laparotomy.

Intussusception due to Lymphosarcoma
S.H. Ein, C.A. Stephens, B. Shandling, R. Filler
Hospital for Sick Children, Toronto, Ontario, Canada
The intestinal lymphosarcoma which causes an intussusception presents a worrisome problem. It has been stated that such lymphosarcoma lesions may be responsible for repeated intussusceptions and indeed for many intussusceptions seen in older children. Almost 1000 infants and children with an intussusception were treated at our hospital over the last 30 years and from this group, only nine were found to have a lymphosarcoma as a leading point for the intussusception. This number represents 17% of all the pathological lesions that have caused an intussusception. Three children were under 4½ years of age. All the children except two were chronically ill with pain for at least one week and usually for several months. Weight loss and abdominal mass in many instances provided the suspicion of a possible malignancy. When barium studies were done, there was always an ileocolic intussusception present with some obstruction. Reduction of the intussusception was never accomplished with hydrostatic barium enema. Surgery confirmed the above findings and an ileocolic resection of the leading point lymphosarcoma was carried out in all of these children. In spite of all forms of treatment, death followed in all but two, usually within several months. One of the two survivors was treated with radiotherapy and steroids (after surgical excision) and is alive almost 20 years; the other was also given chemotherapy and is alive and well three years.
DIAGNOSING APPENDICITIS IN PEDIATRIC PATIENTS. R. Postuma, S. Beenken, Department of Surgery, University of Manitoba, and Children's Hospital, Winnipeg.

Appendicitis is usually diagnosed by clinical and simple laboratory means. Junior doctors tend to use an "algorithmic" approach, employing several dozen items of clinical data in deriving at a clinical diagnosis and decision to perform an appendectomy. In an attempt to improve the accuracy and confidence of housestaff in diagnosing appendicitis in pediatric patients, this study was undertaken to determine which items (determinants) in the clinical data correlated most closely with the surgical diagnosis. Forty clinical and 3 laboratory determinants were evaluated, using computer logistic regressions, in 100 consecutive infants and children undergoing appendectomy. The rate of normal and perforated appendices were 20% and 27% respectively. We propose that the results of this study may be used to diagnose appendicitis more accurately without increasing the incidence of perforation.

R949 – ABSTRACT NOT AVAILABLE FOR PUBLICATION


Surgical correction of coarctation of the aorta in children is usually done with an end to end anastomosis. However, in some patients the anatomy of the aorta precludes this technique and either a subclavian artery (SCA) flap with ligation of the SCA or a synthetic graft must be used. In order to avoid the inconvenience of ischemia to the left arm or the use of synthetic material, we have anastomosed the distal end of the mammary artery (IMA) to the aorta thus reinjecting blood to the SCA. Fourteen patients were operated upon in this manner between 1980 and 1985. All patients were re-evaluated clinically. All are asymptomatic. The pulses in the right arm and femoral arteries are normal and they are easily palpated although slightly decreased in the left arm. The length of the left arm is equal to that of the right in all except in one in whom it is 3 cm shorter then the right. Eight of the patients with a mean follow-up of 2.6 years, had hemodynamic and angiographic studies. The IMA is patent and a good flow to the SCA is maintained in all. The aortic correction showed no stenosis at angiog. We believe that anastomosis of the distal end of the IMA to the aorta preserves adequate long term circulation to the left arm and avoids the potential inconveniences of the SCA flap angioplasty. This technique can advantageously be used in all cases in whom an angioplasty with the SCA is indicated in patients over the age of four.
PEDiatric SURGERY IN BANGLADESH
C. Bagwell  B. Shandling
The Hospital for Sick Children, Toronto, Ontario

Bangladesh, although a small country of only 55,000 square miles, is the world's eighth most populous nation, and its 90 million inhabitants occupy a land of harsh economic conditions. One-half of this dense population is children, 90% of whom suffer from parasitic infestations, 10% are affected with neonatal tetanus, and one-half are severely malnourished. Health care resources are scarce with one physician or hospital bed for about every 10,000 persons. A one month stay in Bangladesh at the Dhaka Shishu Hospital, made possible by the Canadian Association of Pediatric Surgeons, afforded an invaluable opportunity to be involved in pediatric surgery in such a setting.

During the month, over 40 major pediatric surgical procedures were performed including sequestractomy, drainage of parietal wall abscess, and resection of several massive neoplasms. Many unusual pathologic conditions not commonly seen in Western countries, were encountered, including canker otis, tuberculous ileitis, and ascaris-induced small bowel obstruction. In the setting of widespread malnutrition and limited diagnostic aids, prompt surgical treatment remains crucial in many serious childhood conditions. Awareness of some of the more unusual infections and parasites seen in Third World nations is of great importance to Western surgeons due to increased travel and immigration and for a perspective on diseases rarely seen in more affluent countries.

R952 - ABSTRACT NOT AVAILABLE FOR PUBLICATION

ANTIREFLUX SURGERY IN INFANTS WITH BRONCHOPULMONARY DYSPLASIA (BPD).
R.M. Giuffre, S. Rubin, L. Mitchell, Alberta Children's Hospital and University of Calgary, Calgary, Alberta.

BPD is common and in Calgary there are 50-60 new cases per year of which 15 are O₂ dependent. In these infants, aspiration of feed and poor nutrition seem to contribute to the severity of the illness.

Seven infants suffering from BPD with a mean gestational age of 27 weeks and a mean intubation-ventilation period of 159 days had deteriorating lung disease with intractable vomiting and failure to thrive. X-rays of the esophagus, esophageal manometry, and pH studies confirmed the presence of gastroesophageal reflux. Multiple aspiration episodes were documented in each infant.

Fundoplication was done at a mean age of 7 months. There was a reduction in O₂ requirements in all patients postoperatively. The median time of ventilation postoperatively was 2 days. Nutrition in all infants improved postoperatively. Postoperative hospitalization was shortest when surgery was done soon after the first aspiration. Two children had late deaths unrelated to the surgery when mild upper respiratory infection precipitated intractable ventilatory failure. These infants had severe BPD with repeated aspiration before surgery.

Fundoplication was especially beneficial when performed early and we would recommend that infants with BPD be clinically evaluated and fundoplication performed when aspiration is documented.
ANTENATAL DIAGNOSIS OF SACROCOCCYGEAL TERATOMAS - IMPLICATIONS FOR MANAGEMENT

E. R. Grisoni, M.D., M.W.L. Gauderer, M.D.,
M.M. Olsen, M.D., M.N. Jassani, M.D., R.N. Wolfson, M.D.
High Risk Perinatal Centers, Case Western Reserve University
School of Medicine, Cleveland, Ohio

During a 6 year span the prenatal ultrasound (U.S.) diagnosis of a sacrococcygeal mass was made 7 times at the High Risk Perinatal Centers of Case Western Reserve University. Indications for the U.S. examination were: young age, polyhydramnios, dating, and suspected twins. The gestational age at the time of diagnosis ranged from 24 - 34 weeks. In one of the pregnancies, the affected fetus was one of a set of fraternal twins. Two patients were delivered vaginally, 4 were delivered by high vertical C-section. One fetus died in utero. In 6 the diagnosis of sacrococcygeal teratoma (S.C.T.) was confirmed histologically. In one patient the lesion was a fungating malignant melanoma of the lower sacral region. The decision of mode of delivery was made based on the size of the tumor relative to the biparietal diameter and fetal presentation. Three of the 5 remaining patients with S.C.T. survived. The child with the malignant melanoma also survived. In the 3 fetuses with fatal outcome, the ratio of the weight of the infant to the weight of the very large tumor was below 1.3. With the almost routine use of U.S., more S.C.T. will be identified antenatally. Included in this group will be nonviable fetuses as well as very small fetuses with exceptionally large tumors, raising the mortality in this group with an otherwise normally good outlook. Delivery type can be planned based on serial U.S. measurements of the fetus and tumor.

Malignant Ovarian Tumors in Childhood - 37 Cases in 37 Years

Sigmund H. Ein, Moira Gribbin, Kent Mancer
The Hospital For Sick Children and The Princess Margaret Hospital, Toronto, Ontario, Canada

We have reviewed 37 female infants and children who had an ovarian malignancy treated in continuity by the same two hospitals in the same city between 1945 and 1982. There was only one tumor between 1945 and 1957. Almost all similar pediatric series see less than one such tumor each year. The age range was from three to 16 years with half between 11 and 14. There were seven groups of tumors whose pathology was recently reviewed and updated; the survivors are in brackets: Endodermal sinus tumor and embryonal carcinoma 10[3], Teratoma 9[6], Dysgerminoma 8[7], Granulosa theca cell 5[3], Choriocarcinoma 2[0], Epithelial 2[2], Gonadoblastoma 1[1]. Optimal management includes the following: complete resection of disease, surgical and histological results of staging laparotomy, metastatic workup, use of markers, combination chemotherapy, and consider radiotherapy. To date, the survival rate is about 50%.
FAMILIAL SMALL BOWEL ATRESIA
Sigmund Ein, Ian Young, Richard Kennedy
The Hospital for Sick Children, Toronto, Ontario and
Jeneway Child Health Center, St. John’s, Newfoundland,
Canada

The familial occurrence of congenital small bowel atresia
is unusual and has been reported only rarely. Similarly,
reported cases of familial aggregation of duodenal atresia
are rare. This paper describes a particularly unusual
family in which two siblings and a second cousin presented
with atresia of the proximal small bowel in association
with malrotation of the caecum and ascending colon. All
three children have recovered well from their newborn
surgery and are achieving normal growth and development
several years later. The mode of inheritance operative
in this family is unclear. On the basis of parental
consanguinity, autosomal recessive inheritance has been
proposed for familial intestinal atresias but in our
family there is no such consanguinity, although autosomal
recessive inheritance is certainly possible, if the two
mothers carry the same recessive gene. Alternatively,
multifactorial inheritance may be responsible. It is
hoped that this short paper will promote interest in
this unusual subject and prompt physicians and surgeons
involved in the care of such children to enquire into the
family history.

FAMILIAL POLYPsis COLI IN CHILDHOOD. S. Rubin, D. Forbes, C. Trevenen,
G. Gall, B. Scott. Alberta Children’s Hospital and University of
Calgary, Calgary, Alberta, Canada.

Familial polyposis coli (FPC) is usually considered to be a disorder
which only rarely occurs in childhood. We report 2 effected kindreds
in which the disorder is unequivocally established in 5 of 8 potentially
effected children (x±SD), 12.2±2.9 yrs; range 8–16 yrs). Three effect-
ced children underwent total colectomy, anorectal mucosectomy and ileo-
anal anastomosis with temporary loop ileostomy. Two others refused
surgical intervention. Of the 3 children operated upon, one developed
a stricture at the anastomotic site which required surgical revision,
but all had preservation of anal sphincter function as determined by
manometry before and after surgery. All 3 have had closure of the
defunctioning ileostomy and are continent for stool and gas. Our
experience with these 2 kindreds is evidence that polyps can develop
in effected patients in the 1st and 2nd decades of life and are easily
detectable with air-contrast barium enema and colonoscopy. It is
known that 66.2% of those presenting with symptomatic FPC already
have cancer and 6.9% of patients develop cancer in the second decade
of life (Bussey, HJR. Familial Polyposis Coli, Johns Hopkins Univer-
sity Press, 1975). Early surveillance for adenomatous polyps prior to
the development of symptoms, reduces the risk of malignant change.
Ileo-anal pullthrough eliminates the risk of malignancy, preserves
anal sphincter function and is readily adapted to by children.

Only a small number of ingested foreign bodies perforate the esophagus and even a smaller fraction migrate extraluminally with no symptoms. Both of these events are even rarer after coin ingestion. Between 1978 and 1984 three children (15 mos to 5 yrs), who had unabating upper respiratory symptoms, were found to have ingested coins. In only one could the time interval between ingestion and appearance of symptoms (3 yrs) be established, and in this one the diagnosis was delayed because of failure to x-ray the chest after an ingestion episode.

Surgical Evaluation included:
(1). chest/neck films: tracheal and esophageal shadows were separated by the object and a soft tissue mass;
(2). esophagogram: deviation of the esophagus, irregularity of the lumen, and no leak or TEF;
(3). esophagoscopy: mucosa was intact with no direct visualization of the coin.

Treatment consisted of:
(1). exploration: cervical, one; thoracic, two;
(2). localization: coin in extraluminal granulomatous soft tissue;
(3). removal: without resection of the soft tissue mass or esophagus;
(4). drainage: Penrose, one; chest tube, two;

There was no morbidity or mortality from one to six years later.

Though generally harmless, ingested coins are capable of penetrating the esophagus. Sporadic literature reports confirm that the clinical findings and operative results are typical of this seemingly intermediate stage between perforation with mediastinitis and perforation with TEF.

R959 - ABSTRACT NOT AVAILABLE FOR PUBLICATION

The Late Non-Functioning Duodenal Atresia Repair
Sigmund H. Ein, Barry Shandler
The Hospital for Sick Children, Toronto, Ontario, Canada

Since 1979, three newborn males had had duodeno-duodenostomies for duodenal atresia, and all babies had a smooth uncomplicated postoperative course. There were no other anomalies. Between six and 18 months postoperatively, each infant developed an obstruction at the anastomosis which was initially treated with prolonged nasogastric suction. Because conservative management did not relieve the obstruction, the first two babies were operated on several times with revision of the anastomosis, and bypass procedures all of which were slow to function and required prolonged intravenous alimentation. It then became apparent that the duodeno-duodenostomy was functionally obstructed. Therefore the third infant was successfully treated with plication only of the dilated atonic proximal duodenum. All three children are now thriving more than six months after their surgery.
AMBROISE PARÉ - PEDIATRIC SURGEON

Charles E. Bagwell, UMDNJ/Rutgers Medical School at Camden

Although the epitaph of Ambroise Pare forms part of the insignia of the Canadian Association of Pediatric Surgeons, many of his contributions to the field of pediatric surgery have been overlooked. While remembered for military surgery, Pare’s wide interests in the care of children ranged from his concerns for the unborn fetus (pelvic version and Caesarean section) to include descriptions of omphalocele and intersex conditions. Fascinated by the spectrum of birth defects, he described “monsters”, conjoined twins, and a series of operations to correct hare lip and cleft palate as well as obturators for palatal defects. Pare invented procedures for hypospadias repair and decreed the common technique of inguinal hernia repair (“punctus aureus”) which ligated the spermatic cord with the hernia sac and led to testicular necrosis in most youngsters.

Pare’s central tenet of careful manipulation of tissues and tenderness of surgical technique so important in the pediatric patient is exemplified by use of the “crowsbeak” for hemostasis and by vehement opposition to the cauterization of tissues. His voluminous writings covered subjects from enteral hyperalimentation to pestilence and established Pare among the earliest masters of surgery. Of less common knowledge remains his position as a key figure in pediatric surgery and his humble motto, “I dressed him, God healed him”, a worthy emblem to the association.

IMPROVING RESULTS FROM NERVE AND MUSCLE BIOPSY IN CHILDREN. PART -11-, Technical considerations in the harvesting of specimens. Pierre Soucy, Department of Surgery, Pierre Jacob, Department of Pediatrics, Carmencita Jimenez, Department of Pathology, Children’s Hospital of Eastern Ontario, Ottawa, Ontario

The convergence of expertise in the neurological sciences, special interest in myoneuropathology and improved surgical technique has resulted in a significantly improved yield from muscle and nerve biopsies in children with suspected neuromuscular disorders.

We present a synthesis of all those factors which we have identified as contributing to optimal results.

To be discussed specifically are:
- The role of the preoperative neurological evaluation in the selection of the biopsy site and the studies to be done on the specimens.
- Anesthetic techniques.
- Biopsy technique, with special emphasis on the avoidance of artefacts.
- Use of the muscle biopsy clamp
- Processing of the specimen.

We shall conclude with a brief summary of our case material.

W.J. Temple, F. Alexander, L. Marx, L.M. Jerry, Tom Baker Cancer Centre, Dept. of Surgery, University of Calgary, Calgary, Alberta.

The entire Alberta melanoma experience in children <13 years and adolescents 13-19 years of age was reviewed for treatment, pathological and clinical risk factors, and survival. In 35 coded cases, 5 had no slides, 9 were reclassified as Spitz nevus, and 21 were melanomas. All but one patient presented with Stage I melanoma and a single patient had an unknown primary with intradermal metastases. Forty percent were extremity lesions, 30% head and neck, and 30% trunk. Mean follow-up was 5 years for children and 5.5 years for adolescents. Wide excision was used in all patients with an additional prophylactic lymph node dissection (PLND) in 4 and a subsequent therapeutic (TLND) in 3.

<table>
<thead>
<tr>
<th>Survival Features (Alive/Total)</th>
<th>Breslow</th>
<th>Ulceration</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td># PTS</td>
<td>MALE</td>
</tr>
<tr>
<td>&lt;13</td>
<td>1/3</td>
<td>1/1</td>
</tr>
<tr>
<td>13-19</td>
<td>14/18</td>
<td>1/4</td>
</tr>
</tbody>
</table>

This review represents the entire experience of a stable population. Spitz nevus is commonly misdiagnosed as an invasive melanoma in this and other reviews. The correlation of pathological and clinical characteristics in patients <20 is unique. This study suggests that there is a poor survival in children and may not correlate with accepted risk factors. However, it demonstrates that the biology of this disease in adolescents is similar to the adult population with an overall survival of 78%. This is markedly better than the survival of 32-46% reported in the current literature.

R-964

ADENOCARCINOMA OF THE PANCREAS IN A BABY MANAGED BY PANCREATODUODENECTOMY

Adenocarcinoma of the pancreas in childhood is most uncommon. Although there have been a handful of reported cases, the occurrence of this tumor is so unusual that the diagnosis is rarely made preoperatively. Moreover, the finding of this type of tumor in an infant is exceedingly rare. This report describes such a case, discusses its management, and reviews the literature.

A 5½ week old male child presented with a three week history of an enlarging, right upper quadrant abdominal mass, which was first noted by the mother. An IVP showed the right kidney to be displaced inferiorly, but was otherwise normal. VMA determination and bone marrow aspirate were normal, as were liver and bone scans. Abdominal ultrasound showed that this was a solid mass which was separate from both the liver and right kidney. The portal vein appeared to pass right through the mass, and the mass itself could not be distinguished from the head of the pancreas. At operation, a 6 cm solid tumor was found to be present in the head of the pancreas. A biopsy demonstrated it to be a juvenile type adenocarcinoma of the pancreas, and an en bloc pancreatectoduodenectomy was done. The postoperative course was uncomplicated, and the child was discharged from hospital on the twelfth postoperative day. He is well at 4 years of age. To our knowledge, this is the youngest child in whom this tumor has been found, and in whom surgical extirpation has been successful.

R965 - ABSTRACT NOT AVAILABLE FOR PUBLICATION
CASTLEMAN'S DISEASE IN CHILDREN. R.W. Powell, A.L. Lightsey, Jr., W.J. Thomas, S.W. Lew. Clinical Investigation Center, U.S. Naval Hospital, San Diego, CA., Division of Pediatric Surgery, USAMC, Mobile, AL

Castleman's disease or angiofollicular lymphoid hyperplasia occurs infrequently in children and usually presents as an asymptomatic mediastinal mass in an adolescent or young adult. Our two cases illustrate the typical features of the two histologic types.

A four year old female presented with a 4-6 week history of intermittent fever and abdominal pain and initial laboratory studies revealed an anemia and elevated ESR. On physical examination a mobile 6 cm mass was palpable in the left abdomen and echography revealed a complex mass. Immunological studies revealed an elevated IgM fraction. On exploration, an enlarged node in the jejunal mesentry was excised. The other patient, a nine year old male, presented with acute appendicitis and a chest radiograph revealed a mediastinal mass. A CT scan revealed a solid mass which on exploration was enlarged lymph node which was successfully removed. Histological examination revealed the more frequent hyaline vascular form of hyperplasia in the latter patient and the less common plasma cell type in the first patient. Both patients recovered uneventfully and the first child's anemia and abnormal immunoglobulin levels resolved.

First reported by Castleman, et al in 1954, this syndrome usually occurs in adolescents and young adults and usually presents as an asymptomatic mediastinal mass. Other patients, again mainly young adults, present with anemia, fever, and hypergammaglobulinemia which resolves after removal of the abnormal lymph node(s). Other reported locations include the neck, pulmonary parenchyma, abdomen (usually mesenteric) retroperitoneum and pelvic.

FUNDOPICATION IN THE STAGED REPAIR OF POOR-RISK ESOPHAGEAL ATRESIA WITH DISTAL TRACHEOESOPHAGEAL FISTULA. S.Ogita, K.Tokiwa, T.Takahashi, Division of Surgery, Children's Research Hospital, Kyoto Prefectural University of Medicine, Kyoto.

Nissen fundoplication was performed on two of the 14 patients with esophageal atresia and distal tracheoesophageal fistula (TEF) in Waterson Group C as the first-stage surgical repair in a series of operations to prevent the severe pulmonary complications which are caused by reflux of gastric contents into the pulmonary tree.

This procedure results in closure of the TEF without the necessity for a thoracic operation by preventing the reflux of gastric contents into the tracheal tree through the distal TEF.

Correction of the esophageal atresia and TEF were successfully performed in these two patients on the 14th and 41th postoperative day, respectively.

Of the 14 patients whom we treated (1963-1985), these 2 patients in whom "Nissen fundoplication" was performed immediately are the only survivors of our Group C patients with esophageal atresia and TEF.
HEMANGIOMA OF THE OVARIIES IN INFANCY AND CHILDHOOD. James C. Donald, M.B., F.R.C.S.(C), G.A. Machin, M.D., F.R.C.P.(C), Departments of Surgery and Pathology, Victoria General Hospital, Victoria, B.C.

Ovarian tumours are rare in infancy and uncommon in childhood. Cystic lesions and germ-cell tumours comprise the majority of such lesions.

Hemangiomas and other stromal tumours such as lymphangiomas, fibromas and granulosa cell tumours are extremely rare and virtually no cases of hemangioma of the ovary in childhood have been recorded or referred to in the English literature.

Two cases of ovarian hemangiomas are reported by the authors; one in a neonate, a serendipitous finding on prenatal ultrasound; the second in a four year old, presenting with a visible and palpable mass. The lesion in the neonate was unilateral but in the four year old, in addition to the large mass in one ovary, there was hemangiomatous involvement of the other ovary present.

The management consisted of removal of the ovary in the first case and removal of the large ovary in the second case and excision of the hemangiomatous area on the contralateral ovary with preservation of the non-affected part.

The potential for bilateral involvement in these tumours is noted.

Two Boys With Four Pheochromocytomas
Sigmund H. Ein, Donald G. Marshall
Hospital for Sick Children, Toronto, and Department of Surgery, University of Western Ontario

Two teenage boys were treated at separate pediatric institutions for four separate pheochromocytomas over the last 15 years. The first operation in each boy was between nine and eleven years of age, after they presented with severe hypertensive encephalopathy. One boy had separate adrenal tumors excised in 1968, and three and 11 years later, two more separate new left adrenal pheochromocytomas were again resected. They were not recurrent left adrenal tumors from residual pheochromocytoma secreting tissue, because no visible tumor tissue was left behind at the completion of each previous operation, and he was clinically well for years between each tumor resection. The pathology was benign pheochromocytoma. He remains well since the last operation in 1979 but has a residual hemiplegia from the first tumor. The family history is negative. The second boy was first operated on in 1976 at age 11 years when two benign pheochromocytomas were removed from around the right renal artery and the left para-aortic area. He remained well for six years when he became hypertensive again (this time without encephalopathy), and had a right chest para-vertebral pheochromocytoma removed and several weeks later a left adrenal tumor was also removed. He remains well and followed closely. His family history is negative.
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