



# **PEDIATRIC SURGERY UPDATE ©**

## ***Vol 04 No 02 FEBRUARY 1995***

### **Wound Infections**

A surgical wound is considered infected if it develops pus four weeks after its creation. Wounds that heal by primary intention are not infected. Cellulitis of the suture line, subcutaneous seroma formation, and simple stitch abscess can be considered probable infected wounds. Factors associated to wound infections are: (1) degree of microbial contamination during the initial procedure, (2) resistance of the host (depends on age, primary medical condition, state of nutrition and immunological system), (3) initial condition of the wound (clean, contaminated or dirty). Prophylaxis to reduce the incidence of wound infection should consider that the host may have a series of medical conditions that predispose him to wound infection such as primary (B-Cell, T-Cell, complement) or secondary (sepsis, trauma, shock, chemotherapy, radiation) immunological deficiencies along with a poor nutritional status. Bacterial contamination during gastrointestinal procedures should be reduced using: mechanical cleansing of the bowel (golytely), oral and systemic antibiotics, and adequate skin preparation. Other factors that could have an impact on wound infections are keeping hemostasis, manage tissue gently, avoid dead spaces and irrigate contaminated wounds with saline (mechanical cleansing). Infected wounds can either show an early (less than 48 hours) or late (after 60 hours) clinical presentation. This may consist of unduly pain, fever, edema, cellulitis, fever and leucocytosis. Early wound infections are associated to gram positive organism with dramatic (gangrenous) presentation that will need early debridement, constant surveillance, and parenteral antibiotics. Late wound infections are caused by gram positive, negative or polymicrobial flora with a localizing nature. They generally yield to drainage and local measures.

### **Manometry in IA**

Repaired cases of Imperforate Anus (IA) are evaluated clinically, manometrically and radiographically. Manometry will measure the anorectal pressure profile (APP) and recto-anal inhibitory reflex (RAI). The APP permit to determine the length of the closing mechanism and pressure height of the anorectal muscles, and RAI detects the presence of relaxation of the anal

canal upon distension of the rectal ampulla. Continent patient after repaired IA may show: marked high pressure zone, adequate length/pressure height of neo-anal canal, normal anorectal pressure difference, and positive RAI reflex. Incontinent children may show: no marked high pressure zone, decrease anal resting pressure, decrease anorectal pressure difference and absent RAI reflex. Causes of incontinence in these patients are: muscular deficiency (short sphincter complex), deficient motor/sensory innervation (not aware, no urge), mental retardation, not yet toilet trained, and chronic constipation (motility problems). Poor results after anorectal surgery are associated to: high anorectal defect (recto-vesical in males, cloaca in females), absent sacral segments, associated neurologic malformations, and poorly developed striated muscle complex.

### **Esophageal Diverticulum**

This is an extremely rare condition with a congenital or acquired etiology. Most are found in the mid-esophageal area. Initial symptoms are those of dysphagia and regurgitation. Esophagogram is diagnostic and endoscopy corroborates its nature. It seems that the submucosa protrudes through the circular esophageal muscle layer carrying muscularis mucosa without significant evidence of inflammatory changes. Some cases are associated to a motor disturbances of the esophagus. Patients may be at risk of developing an esophago-bronchial fistula to the main bronchus during adult life. Acquired cases are associated to the use of myotomy procedures to lengthened the proximal esophageal pouch of esophageal atresia patients. Surgical resection for symptomatic cases is curative.

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