Updates in Ambulatory Peadiatric Anaesthesia

Essay

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Introduction

Peadiatric ambulatory surgery has experienced exponential growth over the past 20 years, and ambulatory surgery unit efficiency has become essential to a successful ambulatory practice. In today's environment of cost cutting, decreasing reimbursements, and competition for patients and surgeons, improved patient outcomes in an ambulatory surgery unit may result in cost savings from decreased unexpected overnight hospital stays and shorter postanesthesia care unit (PACU) recovery times, as well as lead to increased patient convenience and satisfaction. Postoperative nausea and vomiting (PONV) and postoperative pain are the most frequent complications in ambulatory surgery patients, affecting patient recovery, discharge, and overall satisfaction (***Alderson &lermaan 1997)***

The incidence of postdischarge symptoms in one day surgery has been reported as 17% for nausea and 7% for vomiting, as well as drowsiness in 62%, sore throat in 49%, aches in 47%, headache in 25%, and dizziness and agitation in 20%..

The utilization of same day surgery is increasing in virtually every medical center across the country, driven by cost-containment forces that are largely beyond our control or influence. Children are excellent subjects for ambulatory surgical procedures because they represent a population that is largely healthy and free of chronic illness, they generally have caretakers (called parents) who are capable of assisting them at home through the recovery period, also children would generally prefer to recover from their surgery in the comfort and security of their home, rather than the more anxiety provoking hospital environment. However, an inevitable result of this national trend is that we are seeing more chronic illness of childhood on the day of surgery, thus challenging us to adequately assess and prepare children preoperatively, devise and use anesthetic techniques that will enable their patients to be street-ready in a minimum period of time, while minimizing side effects and complications of

anesthesia that might result in prolonged recovery room stays or inpatient hospitalization.(***Hitchcock-1994)***

The most common procedures performed in the ambulatory setting in the community hospital are otolaryngogic, primarily myringotomy and tube insertion, tonsillectomy, and adenoidectomy, as well as common general surgical procedures including circumcision and inguinal herniorrhaphy. In the busier medical center with a referral pediatric surgical practice, additional cases commonly performed include eye muscle surgery, plastic repairs of cleft lips, urological procedures such as hypospadias repair, gastrointestinal endoscopy, radiological imaging procedures, and cardiac catheterization.**(*Hitchcock - 1994).**

The child should be in good health; if not, any systemic disease must be under good control. Today, many patients with chronic medical conditions present for surgical procedures that are usually considered appropriate for ambulatory surgery. In these cases, an understanding of the underlying pathophysiology and thorough preoperative evaluation will help guide the anesthesiologist as to the appropriateness of choosing an ambulatory setting in each individual patient. Some of these conditions will be discussed .**(Hanallah 2007)**

Preoperative screening clinics for adult patients have been shown to be highly effective in eliminating unnecessary blood tests and radiographs, in reducing case cancellation, and in optimizing the preoperative condition of the patient. Their utility in pediatric ambulatory surgery seems intuitive, however there are no case series or studies that clearly establish their utility. Because most

children who are presenting for ambulatory surgery are healthy, and would be classified ASA Physical Status 1 or 2, the preoperative screening clinic for children is primarily the opportunity for providing patient education and desensitization of the child to the hospital environment. Advanced ASA physical status does not preclude ambulatory surgery, but makes preoperative screening highly desirable so that the medical condition of the patient is optimal on the day of surgery**.(Elliot-Krane 2000)**

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Aim of study

The purpose of this study is not to provide a broad overview of ambulatory surgery for children, but rather to update the clinician on recent advances and developments in this changing field in addition to discuss new guidelines for peadiatric ambulatory surgery ,post operative management and discharge criteria..

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مقدمة

جراحة اليوم الواحد للأطفال أظهرت نمواً واسعاً في العشرين سنة الأخيرة و أصبحت مهمة للغاية.

وقد أدى ذلك الى ارتفاع كفاءة وحدة جراحة اليوم الواحد تؤدي الي توفير الكثير من الأعباء المادية علي الأسرة و المجتمع اضافة الي راحة المريض وتحسين نتائج ما بعد الجراحة..

و الأطفال من الفئات العمرية المناسبة لاءجراء جراحة اليوم الواحد لأنهم يمثلون فئة من الناس الخالية من الأمراض المزمنة ، اضافة الي انهم يتميزون بوجود الوالدين في فترة ما بعد الجراحة وهذا له دور قوى جداً في الرعاية المنزلية بعيداً عن توتر و مخاطر الأقامة بالمستشفي مثل العدوي و القلق.

و مع ذلك قد نواجه بعض الحالات التي تعاني من بعض الأمراض المزمنة التي يجب أت يتم فحصها بدقة لا تخاذ القرار المناسب ما اذا كانوا مثاليين لجراحة اليوم الواحد او لا، و القدرة علي تحديد الطريقة الأفضل للتخدير حتي نتجنب حدوث مضاعفات ما بعد الجراحةو تحديد مدة الأقامة بالمستشفي..

أشهر الجراحات المشهورة التي تجري بوحدات اليوم الواحد هي علي سبيل القصر : مناظير النف والحنجرة ،استئصال اللوز و اللحمية ، الطهارات والفتاء، بعض الجراحات السطحية للعين مثل الجفون و الفم و بعض جراحات المسالك مثل ال و مناظير الجهاز الهضمي و قسطر القلب و بعض الأشعات التشخيصية ...

القيء و الألم من أشهر المضاعفات التي تحدث بعد الجراحة لأطفال بالأضافة الي التهيج والصداع و ألام الحلق . و في هذة الدراسة سنتطرق الي كيفية الحد من حدوث مثل هذه المضاعفات ..

الطفل يجب ان يكون بحالة جيدة وان لم يكون كذلك فأذ كان هناك اى مرض عضوى فلابد من ان يتم التعرف علية جيدا ووضعة فى الاعتبار حتى يتثنى لطبيب التخدير استخدام الطريقة الانسب فى التخدير على حسب الحالة.

التحاليل و الفحوصات قبل الجراحة لها اهمية كبيرة فى توضيح حالة المريض قبل اجراء الجراحة .بالنسبة للاطفال فمعظمهم .....من القسم الاول او الثاني(ASA) و لذلك فمعظم نتائجهم ستكون جيدة و مناسبة لأجراء جراحة اليوم الواحد.

الهدف من الدراسة

الغرض من هذه الدراسة ليس تقديم نظرة شاملة و كاملة عن جراحات اليوم الواحد و انما الأرتقاء بالطبيب الي احدث التطورات و المستجدات في هذا المجال ، و ايضا مناقشة كيفية اختيار المريض المناسب لهذا النوع من الجراحات و مضاعافات ما بعد الجراحة و المعايير التي تسمح للمريض مغادرة المستشفي بآمان .

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Ml……millilitere

MRI…… magnetic resonant imaging

FRC…….functional residual capacity

TLC…….total lung capacity

V/Q…….ventilation perfusion ratio

FRC……functional residual capacity

PPH…….persistant pulmonary hyper tension

DPG……...di phosphoglycerol

HbF……fetal heamoglobin

Ecf…….extracellular fluid

ASA……...american soceity of anaesthesia

URI…….upper respiratory infection

PCA…….postconceptual age

ETT…….endotracheal tube

LMA……laryngeal mask airway

AHI…….apneahypnopea index

REM……rapid eye movement

OSAS…….obstructive airway syndrome

UPPP……uveoplatoplasty

SIDS……sudden infant death syndrome

NPO…….nothing per oral

LFTs…….liver function tests