MANAGEMENT OF INCARCERATED HERNIAS
INTRODUCTION

• Abdominal wall hernias among the most common of all surgical problems
• Leading cause of work loss and disability
• Hernias themselves usually harmless
• Nearly all have risk of incarceration and strangulation
• Surgical emergency
TYPES

• Inguinal Hernia
  – 75% of abdominal wall hernias occurring up to 25X more in men
  – Both direct and indirect forms appear as bulge in inguinal crease

• Femoral Hernia
  – Femoral canal contains artery, vein, and nerve leaving abd cavity to enter thigh
  – Normally tight space, enlarges to allow abd contents (ie. intestine) into canal medial to femoral vein 2º weak transversalis fascia
  – Bulge below inguinal crease; usually occurs in women and prone to incarceration and strangulation because of narrow neck
TYPES

• Umbilical Hernia
  – Often noted at birth as umbilical protrusion due to failure of closure of umbilical ring
  – Rare in adults; prediposing factors include multiple pregnancies, ascites, obesity, and large intra-abdominal tumors

• Obturator Hernia
  – Rare, most commonly occurring in women
  – Protrusion from pelvic cavity through obturator foramen
  – Will not show bulge but can cause bowel obstruction
  – Howship-Romberg sign is pain in medial aspect of thigh relieved by flexion of thigh
CAUSES

• Any condition that increases the pressure of the abdominal cavity may contribute to formation or worsening of a hernia
  – Obesity
  – Heavy lifting
  – Coughing (smokers)
  – Straining during bowel movement or urination
  – Chronic lung disease (COPD)
  – Kyphoscoliosis
  – Fluid in the abdominal cavity
S & S OF INCARCERATION

• Signs and symptoms of a hernia range from a painless lump to an irreducible, painful, tender, swollen protrusion

• Incarceration is associated with
  – Painful enlargement of previous hernia which has become irreducible
  – Some may be chronically incarcerated without pain
  – May present as bowel obstruction (N/V, abd dist)
  – Can lead to strangulation; bowel may become gangrenous in 5 hours

• Incarceration occurs in 6-10% of indirect inguinal hernias in adults and 14 to 56% of femoral hernias

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HEREA REDUCTION

• Immediate reduction of an acutely incarcerated hernia prevents strangulation
• IV analgesics and sedation PRN
• 20-degree Trendelenburg position with pillow to support buttocks for groin hernias (Trendelenburg position not necessary for umbilical hernias)
• Padded ice bag to hernia diminishes blood flow while analgesics take effect
• After 30 min, hernia may spont reduce; if not, manual reduction is attempted
HERNIA REDUCTION

• Pelvis firmly grasped by assistant to prevent lateral movement of the hips
• Ipsilateral leg externally rotated, completely flexed, placed in frog position; this allows external inguinal ring to override internal inguinal ring
HERNIA REDUCTION

• Place first 2 fingers of "guiding" hand over hernial bulge, overriding the external inguinal ring in such a manner as to prevent the hernial sac from subluxating over margin of ring
• Apex of hernia then grasped between first 2 fingers of "reducing" hand, and prolonged, firm, steady pressure is applied
• Reducing hand should stay in place as long as possible; these maneuvers, if successful, often result in a gurgle signifying successful reduction
HERNIA REDUCTION

• If hernia cannot be reduced immediate surgical repair is warranted
• If reduction is successful, elective repair in 24-48 hrs should be performed because of possibility of residual Richter’s hernia or reduction en masse where there is ongoing strangulation
• Contraindications to reduction include fever, leukocytosis, and other signs of toxicity indicating strangulated bowel
• Incarcerated femoral hernias not amenable to manual reduction because of small neck and large amount of overlying tissue
REVIEW OF LITERATURE

• “Presentation and Outcome of Incarcerated External Hernias in Adults”
• Bahadir Kulah, M.D., et al.
• American Journal of Surgery Volume 181 • Number 2 • February 2001
• 385 consecutive pts undergoing emergency surgery for incarcerated external hernia between 1996-1999, ages between 15-100
• Concluded that higher mortality rate after emergency repair is associated with advanced age (>60), severe coexisting diseases, and delayed presentation (>24 hrs after onset of symptoms)
“Emergency Hernia Repairs in Elderly Patients”
Perez JA, Baldonedo RF, et al.
143 pts >65 years old underwent emergency surgery for incarcerated external hernias between 1992-2001
35% of pts presented 48 hrs after onset of symptoms
Coexisting diseases found in 77.7%
Bowel resection was required in 17.5%
Mortality 4.9%
Longer duration of symptoms, delayed hospitalization, concomitant illness were linked with unfavorable outcome.
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