



PEDIATRIC SURGERY Update 8

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Osteochondroma

Osteochondroma is the most common benign bone exostosis found in children. Osteochondroma most frequently arise sporadically and as a solitary lesion, but may also arise associated with hereditary multiple exostosis. Hereditary multiple exostosis is an autosomal dominant disorder in which the clinical hallmark is the growth of bony protuberances from long bones causing a variety of orthopedic deformities. In hereditary multiple osteochondromas the prevalence is one in 50,000 individuals. Ten percent of affected children have no family history of multiple exostosis. Median age at the time of diagnosis is three years. Most cases present with an obvious deformity of the forearm, followed by an inequality in the lengths of the limbs, an angular deformity of the knee, or a deformity of the ankle. Symptomatic complications of osteochondroma consists of pain, fracture, osseous deformity limiting range of motion, vascular injury, neurological compromise, bursa formation and malignant transformation (chondrosarcoma). MRI is the ideal imaging modality in the diagnostic evaluation of symptomatic complications of osteochondromas and often avoids the need for further imaging. Spontaneous resolution of a solitary osteochondroma is rare. Management of symptomatic osteochondromas is surgical excision. Surgical complications associated with excision consist of peroneal neurapraxias, arterial laceration, compartment syndrome and fibular fracture. The surgical risk for the management of osteochondromas is low.

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Suture Granuloma

Suture granuloma, commonly known as a stitch abscess, is a fairly common benign complication seen after surgery. Suture material is a foreign body that causes local irritation and tissue necrosis. Suture granuloma can occur many years after the primary

surgical procedure. The most common suture causing suture granuloma is braided silk material, a non-absorbable suture. Monofilament and absorbable sutures carry a lower risk of infection. At skin or subcutaneous level, the granuloma presents as a chronic intermittent indolent infection with a burrow sinus, with no fever or signs of systemic infection. Diagnosis is suggested with ultrasound (hypoechoic lesion). Removal of the suture material is curative. The intra-abdominal presence of foreign material is an important cause of adhesion formation. Therefore, intra-abdominal contamination with foreign material should be minimized. Suture granulomas mimic neoplasms in clinical appearance. Suture granuloma can occur in the bronchial stump after lung resection, in the lung parenchyma after segmentectomy or as a paravesical mass or abscess after inguinal hernia repair. The paravesical abscess granuloma causes urinary discomfort, swelling, tenderness and microscopic hematuria. Again, definitive treatment is removal of the infected suture material (silk).

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Vacuum-Assisted Closure

Vacuum-assisted closure (VAC) is a novel method utilized to promote expedite open wound closure. The technique consists of placing an open cell foam into the wound, sealing the site with an adhesive drape while applying subatmospheric pressure (125 mmHg below ambient) transmitted to the wound in a controlled manner. The technique removes chronic edema and decreases bacterial colonization leading to increased localized blood flow. VAC utilized in acute and chronic open wounds hasten granulation tissue formation. VAC has shown to be cost effective in the management of complex pilonidal sinus disease, sacral and extremity ulcers, sternal and spinal contaminated wounds, traumatic soft tissue wounds, diabetic foot ulcers, vascular insufficiency ulcers and extensive compartmental tissue loss areas. VAC therapy reduces the number of days to healing, reduces hospital stay, affords fewer dressing changes, allows mobility without bulky bandages and faster return to school or work. Further advantages consist of a clean closed system measuring fluid loss, change on a periodic basis rather than daily and enhancement of wound contraction. Complications with VAC therapy are uncommon.

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