Abstracts of current literature on epidemiology, diagnosis, and treatment

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SURGICAL EXCISION VERSUS ANTIBIOTIC TREATMENT FOR NONTUBERCULOUS MYCOBACTERIAL CERVICOFACIAL LYMPHADENITIS

Investigators in the Netherlands conducted a randomized, multicenter clinical trial to determine whether antibiotic therapy with clarithromycin (15 mg/kg in 2 divided doses) and rifabutin (5 mg/kg once daily) for at least 12 weeks was as effective as surgical excision of the lymph nodes for treatment of nontuberculous mycobacterial (NTM) cervicofacial lymphadenitis in children. Children with microbiologically proven NTM cervicofacial lymphadenitis were randomly assigned to undergo surgical excision of the involved lymph nodes (n = 50) or to receive antibiotic therapy (n = 50). Patients were assessed at weeks 2, 4, 6, 12, and 24 after initiation of therapy. Follow-up ultrasound was performed at weeks 12 and 24. The primary endpoint was cure (regression of the lymph node enlargement by ≥ 75%), with cure of the fistula and total skin closure without local recurrence or de novo lesions after 6 months. Secondary endpoints included surgical complications and adverse effects of antibiotic therapy. At week 24, surgical excision was more effective than antibiotic therapy (cure rates, 96% and 66%, respectively [95% confidence interval {CI} for the difference, 16%–44%]). Successful treatment was not affected by lymph node stage or mycobacterial species. Antibiotic treatment failures were not associated with noncompliance or baseline or acquired resistance to clarithromycin or rifabutin. Fourteen (28%) of the 50 surgical patients had complications. Staphylococcal wound infection occurred in 6 patients despite perioperative prophylaxis, and a permanent grade 2 facial marginal branch dysfunction occurred in 1 patient. Most patients who received antibiotic therapy reported adverse effects (39 [78%] of 50 patients), including 4 patients who had to discontinue treatment. Surgical excision is more effective than antibiotic treatment for children with NTM cervicofacial lymphadenitis.

Lindeboom JA, Kuijper EJ, Bruijnesteijn van Coppenraet ES, et al. Surgical excision versus antibiotic treatment for nontuberculous mycobacterial cervicofacial lymphadenitis in children: a multicenter, randomized, controlled trial. Clin Infect Dis 2007;44:1057–64.

GENETIC FACTORS MAY PREDISPOSE INDIVIDUALS TO ACUTE PYELONEPHRITIS

Researchers investigated whether susceptibility to acute pyelonephritis (APN) was hereditary and influenced by the level of CXCR1 expression. The family members (n = 130) of 10 children with a history of APN and recurrent urinary tract infections (UTIs) and the family members (n = 101) of 15 age-matched control subjects without UTI were recruited. Subjects were interviewed to establish pedigrees of UTI-associated morbidity, and data were obtained for 3 generations in both groups. CXCR1 expression was quantified by flow cytometric analysis of peripheral blood neutrophils obtained from family members and control subjects. APN-associated morbidity was significantly more common in the relatives of APN-prone children (20 [15%] family members) than in the relatives of control subjects (3 [3%] family members; $P < 0.002$). However, acute cystitis occurred with equal frequency in both groups (19%; $P = 1.0$). The family pedigrees suggested that more than 1 gene may be responsible for inherited UTI susceptibility, as some families displayed a dominant pattern of inheritance with or without female-associated penetrance, whereas other families showed a recessive pattern of disease susceptibility. APN-prone children and their families had significantly lower levels of CXCR1 expression than control subjects and their relatives ($P < 0.0001$). These results suggest that susceptibility to APN is inherited and that low CXCR1 expression might predispose to disease.

Lundstedt A, Leijonhufuod I, Ragnarsdottir B, et al. Inherited susceptibility to acute pyelonephritis: a family study of urinary tract infection. J Infect Dis 2007;195:1227–34.

INTRAPLEURAL FIBRINOLYTICS COMBINED WITH IMAGE-GUIDED CHEST TUBE DRAINAGE FOR PLEURAL INFECTION

The authors retrospectively reviewed the medical charts and radiographs of 30 consecutive patients with pleural infection who were seen at a regional community hospital in Mason City, IA, between 15 December 1995 and 1 July 2006 to report the efficacy of treatment with intrapleural urokinase or tissue-type plasminogen activator and image-guided chest tube placement for drainage with or without ultrasound or computed tomography guidance. Endpoints were death, length of hospital stay, and percentage of patients who required surgery. Of these patients, 27 received either intrapleural urokinase or tissue-type plasminogen activator. Three patients died (10% [95% CI, 2.1%–26.5%]) from complications of pleural infections during or immediately after hospitalization; all 3 had severe comorbidities that contributed to their deaths. The median hospital length of stay was 11 days. None of the 30 patients required surgery (0% [95% CI, 0%–9.5%]). Imaging guidance was used in 45.7% of chest tube placements. Intrapleural urokinase or tissue-type plasminogen activator in combination with image-guided placement of chest tubes is highly effective in resolving the effusion and curing pleural infection.

Levinson GM, Pennington DW. Intrapleural fibrinolytics combined with image-guided chest tube drainage for pleural infection. Mayo Clin Proc 2007;82:407–13.

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