Sinus infections may be a factor in toxic shock syndrome in children

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Rhinosinusitis (infection and inflammation in the sinus passages surrounding the nose) appears to be a primary factor in about one-fifth of toxic shock syndrome cases in children, according to a report in the June issue of *Archives of Otolaryngology-Head & Neck Surgery*, one of the JAMA/Archives journals.

The hallmark signs of toxic shock syndrome are fever, rash and low blood pressure, according to background information in the article. The condition is usually caused by infection with the bacteria Staphylococcus aureus, although streptococcal bacteria have also been implicated. Toxic shock syndrome is widely recognized as a disease associated with tampon use and menstruation, the authors note. "Although not as publicized, numerous other risk factors have been established for toxic shock syndrome in association with focal infections, such as surgical wound infections (notably after rhinologic surgery and nasal packing), postpartum and postabortion infections and a wide variety of connective tissue lesions," they write.

Kenny H. Chan, M.D., of the University of Colorado School of Medicine and The Children's Hospital of Denver, and colleagues analyzed the medical records of 76 children (average age 10) who were identified as having toxic shock syndrome between 1983 and 2000. Of these, 23 were also diagnosed as having either acute or chronic rhinosinusitis. No other source of infection was identified in 17 cases.

"Correlation of the data revealed four patients who met the criteria for

proven toxic shock syndrome and proven rhinosinusitis, two patients who met the criteria for probable toxic shock syndrome and proven rhinosinusitis, seven patients who met the criteria for proven toxic shock syndrome and possible rhinosinusitis and three patients who met the criteria for probable toxic shock syndrome and possible rhinosinusitis," the authors write.

Of the 23 patients with toxic shock syndrome and rhinosinusitis, 10 were admitted to the intensive care unit (ICU), four required pressors (medications to increase blood pressure) and six received surgical interventions. There was little difference in the average number of hospital days following toxic shock syndrome between children with rhinosinusitis and those without, although those with rhinosinusitis had a higher incidence of ICU admission, pressor administration and intubation.

"This study illustrates several salient points concerning toxic shock syndrome and rhinosinusitis in children," the authors write. "First, rhinosinusitis as the primary culprit in the pathogenesis of toxic shock syndrome is not a sporadic phenomenon. In fact, the frequency of this combination for this 18-year series is an impressive 21 percent."

"It is imperative that physicians, particularly those who are providing intensive care to children, recognize that rhinosinusitis can be the sole cause of toxic shock syndrome in children," they conclude. "Prompt imaging studies of the sinuses is mandatory when no apparent cause of toxic shock syndrome is found. Once rhinosinusitis is diagnosed, timely otolaryngology referral should be obtained, and sinus culture and lavage should be considered if the clinical condition warrants it."

Source: JAMA and Archives Journals (news : web)