ABC of 1 to 7

H B VALMAN

TONSILLITIS AND OTITIS MEDIA

Upper respiratory tract infections become more common after the age of 1 year. In the child the pharynx, tonsils, and middle ear are close together and it may seem arbitrary to divide them anatomically and prescribe separate treatment for each area. Although failing to give specific treatment for acute tonsillitis rarely results in sequelae, lack of treatment of acute otitis media may lead to bursting of the drum and a chronic discharge. As preschool children have about six upper respiratory tract infections each year these problems are extremely common.

Tonsillitis and pharyngitis

In children aged under 3 years the commonest presenting features of tonsillitis are fever and refusal to eat, but a febrile convulsion may occur at the onset. Older children may complain of a sore throat or painful enlarged cervical lymph nodes. Viral and bacterial causes cannot be distinguished clinically since a purulent follicular exudate may be present in both. Ideally a throat swab should be sent to the laboratory before starting treatment to determine a bacterial cause for the symptoms and to help to indicate the pathogens currently in the community. Recently there has been a recurrence of group A haemolytic streptococci in outbreaks of sore throat, and a more liberal use of penicillin is justified during this period. As this organism is the only important bacterium causing tonsillitis, penicillin is the drug of choice and the only justification for using another antibiotic is a convincing history of hypersensitivity to penicillin. In that case the alternatives are erythromycin or co-trimoxazole. In the absence of an outbreak of group A streptococcus infection the indication for oral penicillin is fever or severe systemic symptoms. The drug should be continued for at least 10 days if a streptococcal infection is confirmed. Parents often stop the drug after a few days as the symptoms have often abated and the medicine is unpalatable. The organism is not eradicated unless a full 10-day course is given.

Viral infections often produce two peaks on the temperature chart.

An extensive thick white shaggy exudate on the tonsils (sometimes invading the pharynx) suggests infectious mononucleosis, and a full blood count, examination of the blood film, and a Monospot test are indicated. A membranous exudate on the tonsils suggests diphtheria and an urgent expert opinion should be sought.

Fluids can be given while there is dysphagia, and regular paracetamol during the first 24 to 48 hours reduces fever and discomfort.

A peritonsillar abscess (quinsy) is now extremely rare. It displaces the tonsil medially so that the swollen soft palate obscures the tonsil and the uvula is displaced across the mid-line. The advice of an ENT surgeon is needed urgently.

Sunday	Monday	Tuesday	Wednesday	Thursday
X	X	X	X	X
Friday	7	8	9	10
X				

Acute otitis media

Ampicillin
Amoxycillin
Co-trimoxazole
Erythromycin
Cephalexin

Pain is the main symptom of acute otitis media and is one of the reasons why a child wakes crying in the night. If the otitis media is bilateral the child has difficulty in locating the site of the pain. The pain is relieved if the drum ruptures. Viruses probably cause over half the cases of acute otitis media, but a viral or bacterial origin cannot be distinguished clinically. The commonest bacteria are, *Haemophilus influenzae*, pneumococci, and group A haemolytic streptococci.

Children are often fascinated by the light of the auriscope, and the auriscope speculum can be placed on a doll's ear or the child's forearm to reassure him. Gentleness is essential and the speculum should never be pushed too far into the external meatus because this causes pain. If the pinna is pulled gently outwards to open the meatal canal the tympanic membrane is visible with the tip of a speculum only as far as the outer end of the meatus. In early cases of otitis media there are dilated vessels on the upper and posterior part of the drum. Later the tympanic membrane becomes congested and bulging and the light reflex becomes less clear. Swelling or tenderness behind the pinna should always be sought as mastoiditis may be easily missed.

The choice of initial treatment lies between ampicillin, amoxycillin, and co-trimoxazole. If there is no improvement in the drum after two or three days another antibiotic should be substituted. Erythromycin and cephalexin are second-line drugs. There is no evidence that any form of ear drops are helpful in acute otitis media with an intact drum. Antibiotics should be given for at least 10 days—this cannot be overemphasised—and the ears examined again before the course is stopped. Ideally a hearing test should be performed a few months after each attack of acute otitis media to detect residual deafness and "glue ear."

Secretory otitis media

Secretory otitis media (glue ear) may be discovered during a routine hearing test. It may be found as a result of impaired hearing shown after an attack of acute otitis media. The insidious onset of this problem may result in the child presenting at school with a behaviour problem, slow learning, or periods of "switching off" during lessons, which may be misinterpreted as petit mal. Hearing may fluctuate; some weeks it may be normal but severely impaired at other times. Routine screening tests may be performed during the good period and produce a false sense of security.

If secretory otitis media is suspected the child should be seen by an ear, nose, and throat surgeon. He usually waits four to six weeks in the hope that the effusion will resolve. To help Eustachian tube drainage decongestion of the nasopharyngeal mucosa may be attempted during this period using oral antihistamines such as chlorpheniramine maleate (Piriton) with decongestant nose drops ($\frac{1}{2}\%$ ephedrine in 0.9% saline or xylometazoline hydrochloride (Otrivine paediatric)). Only two ephedrine nose drops should be given at a time; they should be measured accurately to prevent excessive blood concentrations of ephedrine through gastric absorption. The drops should not be given for more than two weeks continuously. If the effusion persists myringotomy is performed under general anaesthesia. The effusion is aspirated and a grommet inserted through the incision. This allows air into the middle ear, a role eventually performed by the Eustachian tube.

The grommet usually becomes blocked about six to nine months after insertion. It may be gradually extruded and fall out. Glue ear sometimes recurs and the grommet may need to be inserted several times. The value of adenoidectomy is controversial.

Indications for tonsillectomy

If bacterial infection of the tonsils is suspected because there is pus on the tonsils and if group A haemolytic streptococci are grown from swabs more than three times a year in two consecutive years, tonsillectomy may be indicated. Many paediatricians would consider that these criteria are not stringent enough, though tonsillectomy would be a rare operation even if these less stringent criteria were followed. An absolute indication for tonsillectomy is such gross enlargement of the tonsils that they meet in the midline between attacks of infection. Another indication is recurrent febrile convulsions associated with attacks of definite follicular tonsillitis.

Indications for adenoidectomy

Children with more than three episodes of acute otitis media a year or those with secretory otitis media (glue ear) should be seen by an ENT surgeon. As well as aspiration of the middle ear and the insertion of a grommet, adenoidectomy is usually considered. If the surgeon considers that adenoidal tissue encroaches on the nasopharyngeal orifice of the Eustachian tube he may perform an adenoidectomy. Partial nasal obstruction causing snoring at night and mouth breathing during the day with recurrent sore throat may also be an indication for adenoidectomy, although there is a high rate of spontaneous cure if the parents can be persuaded to wait.

Dr H B Valman, MD, FRCP, is consultant paediatrician, Northwick Park Hospital and Clinical Research Centre, Harrow.

Preventing tetanus in the wounded

Give human tetanus immunoglobulin		
if		
Patient	And	Wound
Not immunised or Immunity unknown		Over 6h old or Tissue damage or Penetrating or Cannot be cleaned

Surgical toilet of a wound is of prime importance since the removal of foreign bodies and dead tissue helps to prevent the growth of tetanus bacilli. The track of the wound should be opened up and all dead tissue removed. Wounds that are heavily contaminated with soil or those with severe contusion must not be sutured initially.

Active immunisation is provided by a course of adsorbed toxoid. A basic course comprises three doses—the first immediately after the injury, the second about six weeks later, and the third about 6–12 months after the second. Booster doses should be given every 10 years unless the patient has in the meantime received a dose after an injury. The importance of returning for the complete course of toxoid and booster doses must be emphasised to the patient.

If the patient has had a complete course or a booster dose of toxoid within five years no additional measures are needed for tetanus prevention. If the booster dose was given over five years earlier one dose should be given.

If the patient has not been actively immunised or his immunity is unknown and the wound is over six hours old, associated with tissue damage, or is penetrating or cannot properly be cleaned human tetanus immunoglobulin (250 units) should be given in addition to starting the course of active immunisation with toxoid. If human tetanus immunoglobulin is not available penicillin should be given for at least five days by intramuscular injection (in a dose of 200 mg/kg/24 h).