Otovent autoinflation devices: who should use them, and how

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How to use Otovent balloon autoinflation to treat otitis media with effusion.

Various studies have shown that up to 80% of all children have significant episodes of eustachian tube dysfunction and otitis media with effusion of varying duration before attending school.[1]

In addition to causing pain, reduced hearing and eardrum pathology, otitis media with effusion predisposes to recurrent acute middle ear infection. Chronic ear disease occurring in later life, such as chronic otitis media and cholesteatoma, are also directly attributable to recurrent otitis media in childhood.

It is common practice to observe children who have otitis media with effusion until the condition has persisted for three months.

Conservative treatments include:

- antibiotic therapy
- corticosteroids
- autoinflation techniques such as Valsalva's or Toynbee's manoeuvres
- balloon autoinflation.

Children in whom conservative management has failed and who have persistent fluid with significant conductive hearing loss are treated surgically by myringotomy and insertion of tympanostomy tubes.

A commercially available balloon autoinflation device, Otovent, is available in Australia from selected pharmacies. It costs around $30.

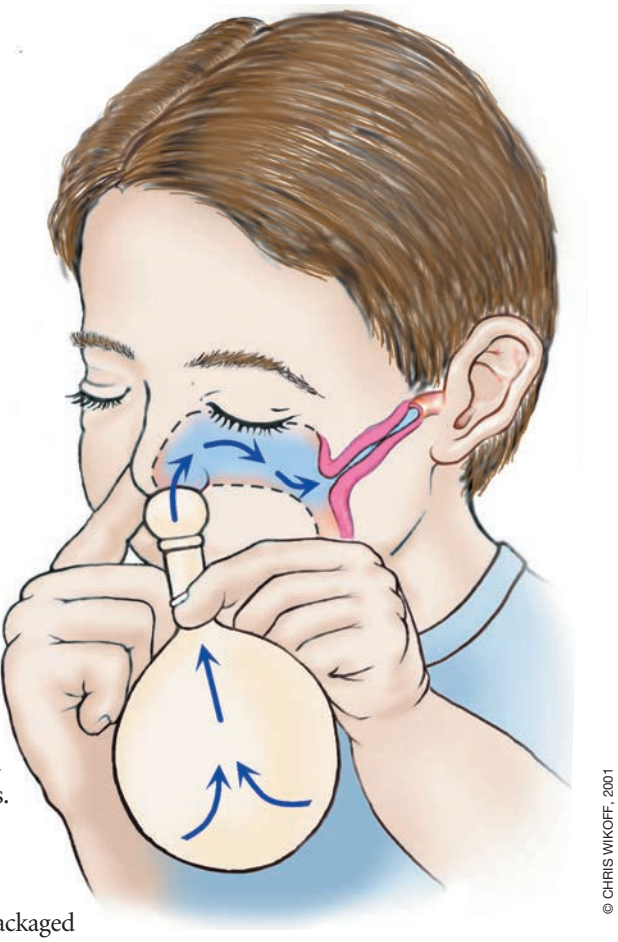

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Figure. One nostril is blocked and the other is used to blow up the balloon to the size of a large lemon. Then, while the patient is swallowing, air is allowed to rush back into the nose toward the ear.

Equipment

The Otovent comes prepackaged in a kit containing a nasal nozzle and three balloons. The packaging has illustrations demonstrating the use of the nozzle and balloons. The balloons are reusable, but it is not recommended that the nozzle be shared.

Indications

The device can be tried by:

- children with otitis media with effusion that has persisted for one month
- adults with otitis media with effusion
- adults after barotrauma with no clinical indication of perilymph fistula.

Contraindications

Otovent is contraindicated in cases of:

- intercurrent rhinosinusitis
- severe nasal septal deformity
- repaired cleft lip or palate
- scarred eardrums.

Procedure

Using the illustrations supplied in the kit, instruct the patient in the use of the device. Attach the balloon to the nozzle.

Ask the patient to block the contralateral nostril and keep the mouth closed during the inflation procedure. Instruct the patient to use the unoccluded nostril to blow up the balloon to about the size of a large lemon.

Tell the patient to swallow, with the contralateral nostril still occluded, while the air from the balloon rushes back into the nose (Figure). The ear should pop.

Repeat the procedure on the contralateral side.

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Instruct the patient to rest for one minute, then repeat the procedure twice.

This whole protocol is repeated morning and night for two weeks.

Definition of success

The following findings will show if the procedure has been successful:

- normal pneumatic otoscopy
- type A or C1 Jerger tympanogram
- normal audiometry (less than 15 dB gap between air and bone conduction thresholds at 250, 500, 1000, 2000 and 4000 Hz).

Complications

Possible complications of the procedure are:

- ear drum perforation
- epistaxis
- barotrauma to paranasal sinuses.

Discussion

In a study of the device in Sydney, Otovent autoinflation was found to be successful in 23% of paediatric cases.[1] There was no significant difference in the success rate between males and females. If the treatment was to succeed it was most likely to work in the first month (49%), with a reduced success rate in the second (33%) and third (13%) months.[2]

The treatment is unlikely to be successful in children under the age of 4 years. The success rate in adults is higher than it is in children.

The success rate of Otovent does not vary greatly from that of other conservative means of treatment, but it appears to be less invasive. MT

References

1. Lim DJ, ed. Recent advances in otitis media. Report of the sixth research conference. Ann Otol Rhinol Laryngol Suppl 1998 Oct; 174: 1-94.

2. Havas TE, Koutsis A, Jacobson I. Nasal balloon autoinflation (Otovent) as a treatment of otitis media with effusion in children. Aust J Otolaryngol 1995; 21 337-342.

FORUM

Innocence revisited

A request for your reflections

Many years ago Lord Thomas Dewar, the Scottish distiller, gave some sound advice. Confessions may be good for the soul, he said, but bad for the reputation. Disregarding it, I reflected upon some of the experiences I had had since graduating in medicine and committed them to print as 'Innocence Revisited'. I wished that most of them had happened to someone else.

But the sky did not fall in, and I am still registered. More than that, others were emboldened to write of their own tribulations; I was not unique. It makes me feel better to read about the misfortune of others, so I shall send a bottle of 'Medicine Today' wine to anyone who sends in a usable contribution (under a nom de plume if you wish). Believe me when I tell you that we don't drink it all day long at work, but we have a bit when we go home at night because it is good for our arteries.

Dr John Ellard
Editor, Medicine Today