



Water as a fast acting wax softening agent before ear syringing



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BACKGROUND

Dispute exists over the best treatment for softening occlusive earwax. Some require the patient to go away for days before returning for syringing. Some syringe immediately with no preparation.

METHODS

An open, nonblinded, randomised controlled trial was conducted in one rural general practice. Effects of instillation of water into the ear canal for 15 minutes before syringing were compared to effects of syringing immediately.

RESULTS

Thirty-nine ears (of 26 patients) were randomised. Ear wax was removed entirely by syringing in all ears. Prior instillation of water required a mean 7.5 (+/- 7.3) attempts at syringing versus a mean 25.4 (+/- 39.4) attempts for ears that were syringed immediately ($p=0.043$).

DISCUSSION

Prior installation of water before syringing seems to be an effective and simple method of reducing the number of attempts required to clear the ear of occlusive wax.

Occlusive earwax (cerumen) is a common presentation in general practice. It may cause discomfort, a sensation of fullness, hearing loss, tinnitus and occasionally vertigo. For doctors, it limits the view of the tympanic membrane.

Syringing is a commonly used method of removing cerumen.¹ Softening of ear wax with a solvent before syringing is often recommended.¹ Many solvents have been trialed, including oils, chlorbutol/dichlorobenzene/arachis oil,²⁻⁴ docusate sodium,^{4,5} sodium bicarbonate,^{2,4} and water.

Some studies suggested that water based preparations were more effective than oil based ones.^{5,6} In one study, water used for a short time was as effective a softening agent as oil used for three nights before syringing.⁷ The objective of this study was to compare the effect of water, used as a softening agent for only a few minutes, with the effect of not using any softening agent before syringing.

Method

The study was conducted in a single rural general practice, from August 2002 to February 2003. All patients who needed an ear to be syringed were invited to participate if they fulfilled the inclusion criteria (*Table 1*). Ethics approval was granted by The Royal Australian College of General Practitioners' National Research and Evaluation Ethics Committee.

After obtaining written informed consent, patients were randomised by a coin toss. Patients in the intervention group ('wet' syringing) were asked to lie on their side on an examination couch, with the affected ear uppermost, with warm tap water filling the ear for 15 minutes. It was then syringed as by routine procedure (*Table 2*). Patients in the control group ('dry' syringing) had their ear syringed immediately. For patients affected by wax in both ears, the coin toss determined the treatment of the left ear, with the right ear receiving the alternative.

Table 1. Inclusion criteria

- Patient 18 years of age or over
- Patient able to give informed consent
- Patient had one or both ear canals partially or totally occluded by ear wax that the GP would normally syringe
- No actual or suspected tympanic membrane perforation
- No previous ear surgery
- No current otitis media or otitis externa
- Patient had not swum in the previous 3 days
- No use of ear drops in the previous 3 days
- Able to lie down for 15 minutes

The outcome measured was the number of attempts (each using 25 mL water) at syringing the ear required to visibly clear occluding ear wax. The difference between the mean number of attempts in the two treatment groups was compared using an unpaired, two-tailed, student's t-test.

Blinding was possible for neither patient nor investigator. All patients had their ears syringed by one of the research group to maintain consistency in technique.

Results

Twenty-six patients (39 ears) between 37–90 years of age were treated (Table 3). Ear wax was completely removed in all ears. One patient (both ears syringed) experienced dizziness (but not vertigo), which was transient. No other adverse effects were noted. All ears were examined at the end of syringing to confirm the tympanic membrane was intact.

Most patients found lying down for 15 minutes with water in their ear preferable to being sent home to treat their wax

with a softening preparation for some days before syringing.

Discussion

Blinding would have been preferable to avoid several potential biases by the operator, but clearly it was not possible. The investigator could have picked up several cues, including the wetness of the ear, and the difference in colour of exhausted water emerging during syringing. The randomisation technique also could have led to selection bias.

Using water as a wax softening agent significantly reduced the number of syringing attempts, and although it halved the time taken, this was not statistically significant. The number of syringing attempts was higher than would be usually experienced by general practitioners as the syringe used had a much smaller volume (25 mL) than the traditional metal ear syringe (>120 mL).

Our study was not powered to detect major complications which have been reported in the literature as occurring in

approximately 1 in 1000 ears syringed.¹ An earlier study that used water as a quick softening agent reported no side effects among 42 patients.⁷

Using water as a wax softening agent in this way has numerous advantages, including its low cost and the fact that it is readily available.

Implications of this study for general practice

What was already known

- Solvents can soften ear wax to assist syringing
- Water is comparable to other solvents as an effective wax softener
- Water is an alternative to putting in eardrops at home over several days.

What this study found

- Flooding the ear with water for 15 minutes before syringing is more effective than not.

Conflict of interest: none declared.

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Table 2. Ear syringing procedure

- Patient was seated for the procedure, and a receptacle held under the ear
- A sterile 25 mL Luer-Lok syringe fitted with a sterile, 1 cm long piece of tubing cut from a scalp vein (butterfly) needle set was used for each patient. The tubing was locked into the threaded syringe end to prevent inadvertent detachment
- The pinna of the ear was pulled upward and backward and the nozzle aimed posterosuperiorly in the ear canal
- The ear canal was inspected, using an auroscope, after each syringing attempt of 25 mL of warm water

Table 3. Comparison between intervention and control groups

	'Wet' syringing	'Dry' syringing	Significance
Baseline			
Patients, n	22	17	
Males in group (%)	15 (68%)	11 (65%)	
Mean age ± standard deviation	63 ± 8	65 ± 20	NS
Mean duration of symptoms (days) ± standard deviation	300 ± 421	249 ± 353	NS
Results			
Mean time to syringe ear, minutes	6.5	15.4	NS
Mean number of attempts ± standard deviation	7.5 ± 7.3	25.4 ± 39.4	p=0.043