

Summary of findings:




35. Topical quinolone compared to topical non-quinolone antibiotic for chronic suppurative otitis media

Patient or population: Children and adults with chronic suppurative otitis media.

Setting: Primary health care.

Intervention: Topical quinolone antibiotic. (Studies used: Ciprofloxacin 0.3% 2-5 drops, three times daily, Ofloxacin 0.3% 3 - 6 drops, twice to three times daily or 6 drops once weekly.) Duration varied from 8 days to 3 weeks

Comparison: Topical non-quinolone antibiotic (Studies used: Tobramycin 0.3% 2-5 drops, three times daily, Gentamicin 0.3% 5 drops, three times daily, 0.5% Neomycin, 0.1% polymyxin B 3-6 drops, twice to three times daily or 6 drops weekly.) Duration varied from 8 days to 3 weeks

Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Topical quinolone	With Topical quinolone	Difference		
Persistent discharge assessed with: otoscopy follow up: 2 weeks № of participants: 276 (5 RCTs) ^{1,a}	RR 0.65 (0.46 to 0.92)	37.4%	24.3% (17.2 to 34.4)	13.1% fewer (20.2 fewer to 3 fewer)	 LOW ^{b,c}	In patients with CSOM treated with topical quinolone antibiotics compared to topical non-quinolone antibiotics there are possibly fewer patients with persistent discharge at 2 weeks follow-up. NNT -8
Persistent discharge assessed with: otoscopy follow up: range 2 to 3 weeks № of participants: 313 (6 RCTs) ^{1,d}	RR 0.76 (0.55 to 1.04)	36.4%	27.6% (20.0 to 37.8)	8.7% fewer (NS) (16.4 fewer to 1.5 more)	 MODERATE ^c	In patients with CSOM treated with topical quinolone antibiotics compared to topical non-quinolone antibiotics there is probably no difference in persistent discharge at 2-3 weeks follow-up. NNT Not applicable.
Persistent discharge - Topical quinolone vs topical non-quinolone with steroid assessed with: otoscopy follow up: median 14 days № of participants: 395 (3 RCTs) ^{1,e}	RR 0.97 (0.57 to 1.64)	70.5%	68.4% (40.2 to 100.0)	2.1% fewer (NS) (30.3 fewer to 45.1 more)	 VERY LOW ^{b,c,f}	In patients with CSOM treated with topical quinolone antibiotics compared to topical non-quinolone antibiotics with steroid there is insufficient evidence to report on persistent discharge at 14 days follow-up. NNT Not Applicable

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Topical quinolone	With Topical quinolone	Difference		
Persistent discharge - Topical quinolone vs topical non-quinolone with steroid. Remote Aboriginal children. assessed with: otoscopy follow up: range 6 to 8 weeks № of participants: 97 (1 RCT) ^{1g}	RR 0.97 (0.75 to 1.25)	72.3%	70.2% (54.3 to 90.4)	2.2% fewer (NS) (18.1 fewer to 18.1 more)	⊕⊕○○ LOW ^c	In remote Aboriginal children with CSOM treated with topical Ciprofloxacin compared to topical Framycetin-Gramicidin-Dexamethasone there is possibly no difference in persistent discharge at 6-8 weeks NNT Not Applicable

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; NS: Not significant; NNT: Number needed to treat; NNH: Number needed to harm

GRADE Working Group grades of evidence

High quality: We are very confident that the true effect lies close to that of the estimate of the effect

Moderate quality: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

Explanations

- a. Studies taken from: Cochrane Review, Macfadyen 2005 (Tutkun 1995, van Hasselt 1997, van Hasselt 1998 daily, van Hasselt 1998 weekly, Kaygusuz 2002)
- b. Inconsistency: High heterogeneity
- c. Imprecision: Small studies / optimal information size not reached
- d. Studies taken from: Cochrane Review, Macfadyen 2005 (Tutkun 1995, van Hasselt 1997, van Hasselt 1998 daily, van Hasselt 1998 weekly, Kaygusuz 2002, Fradis 1997)
- e. Studies taken from: Cochrane Review, Macfadyen 2005 (Miro 2000, Tong 1996, Couzos 2003)
- f. Risk of Bias: Performance bias (no blinding - Miro 2000), early termination of study noted (Couzos 2003) due to poor recruitment.
- g. Study taken from: Leach 2008
- h. Studies taken from: Cochrane Review, Macfadyen 2005 (van Hasselt 1997, Kaygusuz 2002, Lorente 1995)
- i. Studies taken from: Cochrane Review, Macfadyen 2005 (Fradis 1997, Kaygusuz 2002)

References

1. Macfadyen CA, Acuin JM, Gamble C. Topical antibiotics without steroids for chronically discharging ears with underlying eardrum perforations. The Cochrane database of systematic reviews. 2005(4):Cd004618. Epub 2005/10/20. doi: 10.1002/14651858.CD004618.pub2. PubMed PMID: 16235370.