EVIDENCE-BASED CHILD HEALTH: A COCHRANE REVIEW JOURNAL
E .-B C H **2**: 943–964 (2007)
Published online in Wiley InterScience (www.interscience.wiley.com). **DOI:** 10.1002/ebch.172

Overview of Reviews

The Cochrane Library and trachoma: an overview of reviews

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Background

Description of the condition

Trachoma i he leading infec io ca e of blind- ne orld ide. Reo rren infec ion b he bac eri m prod ce a chronic kera ocon- j nc i i i (in amma ion affec ing bo h he co j nc- i a and cornea) referred o a Ac i e Trachoma. The infec ion i pread from per on o per on b nger and clo he ed o ipe a a e e di charge. I i al o ran mi ed hro gh -e e con ac (1). The epea ed c cle of infec ion and in amma ion ca e he inner rface of he pper e elid o car. Progre i e carring re l in di or ion and hor ening of he in ide of he e elid. A he lid margin rn in ard (en ropion) i ca e he e ela he o al o rn in ard and o ch he rface of he e e, a condi ion kno n a rachoma o richia i . Thi condi ion can damage he cornea b direc ra ma and econdar bac erial infec ion nle corrected rgicall , b ro a ing he lid margin and la he a a from he e e i Wi ho rgical correc- ion, blinding corneal opaci ca ion can de elop (2). Al ho gh rachoma i ea il con rolled, blindne from rachoma i e en iall irre er ible.

The World Hea l h Organi a ion (WHO) li he na ional rachoma pre alence e ima e for 52 endemic co n rie (h p://globala la . ho.in /globala la): appr- o ima el 460 million people ard a ri k for blind- ing rachoma; 63 million ha e ac i e rachoma; and 9.5 million ha e nopera ed richia i . I ha al o been e ima ed ha rachoma i re pon ible for 3.6% of globall blindne (appro ima el 1.3 million people) making i he orld' leading ca e of pre en able blindne (3).

Description of the interventions

WHO ha adop ed an in egra ed con rol ra eg o pre en blindne from rachoma and o con rol rachoma ran mi ion. Tha ra eg ha he name 'SAFE' and con i of: S rger o correc rachoma- o richia i ; An ibio ic o rea ac i e infec ion and red ce he comm ni ie er oir of infec ion; and Facial clean line and En ironmen al change o p- pre ran mi ion b modif ing fac or ha fa o r i (4,5).

How the interventions might work

S rger i all he r componen of he SAFE ra eg o be implemen ed, a i can op corneal damage from progre ing, and hence pre en blindne in ho e a immedia e ri k, before irre er ible corneal opaci ca ion ha occ rred (6). Epila ion (pl cking he e ela he) and e elid aping (forcing e ela he back o he correc po i ion and holding hem i h icking pla er) can be ed in lie of rger , al ho gh he long- erm ef cac of he e in er en ion in pre en ing blindne i no cer ain. The mo common rgical proced re are bilamellar ar al ro a ion (f ll hickne inci ion hro gh he e elid), po erior lamellar ar al ro a ion (inci ion onl hro gh he carred ar al pla e and conj nc i a) and ar al ad ance and ro a ion (inci ion in he ar al pla e and ro a ion of he erminal por ion, in hich he pper par of he ar i epara ed from he an erior lamellar and ad anced) (6). All of he rgical proced re re er e he in- rned la he charac eri ic of rachoma o richia i o ha he are re rned o heir original, o ard-poin ing po i ion.

For rea men i h an ibio ic , he WHO o rren l recommend ei her (a) 1% e rac cline e e oin men ice a da for i eek applied opicall on he inner rface of he lo er e elid, or (b) a ingle oral do e of a i hrom cin (1000 mg for an ad l and 20 mg/kg for children) (7). An ibio ic effec i el rea o rren infec ion and are ed for bo h indi id al rea men

Interventions for trachoma trichiasis (6)	Yorston D Mabey D Hatt S Burton M	Mar 2006	Adults	• Bilamellar tarsal rotation • Bilamellar tarsal rotation • Tarsal advance and rotation • Eversion splinting • Tarsal advance • Tarsal grooving • Electrolysis, cryotherapy or bilamellar tarsal rotation • Bilamellar tarsal rotation • Tarsal advance and rotation • Epilation (manual removal of eyelashes • Posterior lamellar tarsal rotation, tetracycline and azithromycin • Providing surgery in participants' own village • Surgery by non-ophthalmologist integrated eye care workers	• Posterior lamellar tarsal rotation • No control group, participants randomized to one of three operations • No control group, participants randomized to one of five operations • Tarsal advance and rotation • Tarsal advance with buccal mucosal membrane graft • Double-sided sticking plaster • Posterior lamellar tarsal rotation and tetracycline • Providing surgery in nearest health centre • Surgery by ophthalmologists	Primary - Recurrence of trichiasis Secondary - Visual acuity - Acceptance of treatment

Table II. Active Trachoma (TF or TI)

Author/year	Intervention and comparison	No. subjects	Control group risk [baseline risk]	Risk difference (95% CI)	Relative risk (95% CI)	Comments
Antibiotics studies						
Oral antibiotics versus control group						
Darougar 1980b (25)	Treatment: oral doxycycline, one dose per month for 12 months Comparison: vitamin pills 1 dose per month for 12 months	3 mo. 91 12 mo. 91	72.3% 70.2%	0.00 (−0.18, 0.19) −0.16, (−0.35, 0.04)	1.01 (0.78, 1.29) 0.78 (0.56, 1.08)	Household treatment
Dawson 1969i (26)	Treatment: oral trisulfapyrimidines 3 daily during 3 consecutive weeks Comparison: lactose-placebo 3 daily for 3 consecutive weeks	12 mo. 36	83.3%	−0.50 (−0.78, −0.22)	0.40 (0.20, 0.79)	Only active trachoma cases treated
Dawson 1969ii (26)	Treatment: oral trisulfapyrimidines 3 daily during 3 consecutive weeks Comparison: lactose-placebo 3 daily for 3 consecutive weeks	3 mo. 29	7.1%	0.00 (−0.19, 0.18)	0.93 (0.06, 13.54)	Only active trachoma cases treated
Foster 1966 (42)	Treatment: oral sulphamethoxypyridazine once daily for 5 consecutive days every week for 3 weeks Comparison: no treatment	3 mo. 219 12 mo. 219	82.2% 63.6%	−0.05 (−0.16, 0.05) 0.08 (−0.04, 0.20)	0.93 (0.82, 1.07) 1.12 (0.93, 1.35)	Only active trachoma cases treated
Hoshiwara 1973 (27)	Treatment: oral doxycycline once daily for 5 consecutive days every week up to 28 doses in 40 days Comparison: placebo once daily for 5 consecutive days every week up to 28 doses in 40 days	3 mo. 103	81.5%	−0.24 (−0.42, −0.07)	0.70 (0.53, 0.92)	Only active trachoma cases treated
Shukla 1966 (43)	Treatment 1: topical sulphafurazole + sulphadimethoxine twice daily for 5 consecutive days every month for 5 months/bi-weekly for 5 months Treatment 2: sulphadimethoxine biweekly or weekly dose for 5 months Comparison: no treatment	3 mo. 125 12 mo. 125	85.7% 83.3%	−0.22 (−0.37, −0.07) −0.40 (−0.55, −0.24)	0.74 (0.61, 0.91) 0.52 (0.39, 0.69)	Only active trachoma cases treated. Treatments were pooled and compared with control Only active trachoma cases treated. Treatments were pooled and compared with control

DOI: 10.1002/ebch.172

Topical antibiotic versus control group						
Attiah 1973 (44)	Treatment 1: topical tetracycline derivative once every school day for 11 weeks Treatment 2: topical terramycin once every school day for 11 weeks Comparison: no treatment	3 mo. 228	76.3%	−0.21 (−0.33, −0.09)	0.72 (0.60, 0.88)	Only active trachoma cases treated
Darougar	Treatment: topical oxytetracycline twice daily for 7 consecutive days every month for 12 months Comparison: vitamin pills 1 dose per month for 12 months	3 mo. 85 12 mo. 85	72.3% 70.2%	0.04 (−0.15, 0.23) −0.20 (−0.41, 0.00)	1.05 (0.82, 1.35) 0.71 (0.49, 1.03)	Household treatment
Foster 1966 (42)	Treatment: topical tetracycline 3 times daily on 5 consecutive days every week for 6 weeks Comparison: no treatment	3 mo. 213 12 mo. 213	82.2% 63.6%	−0.08 (−0.19, −0.03) −0.02 (−0.15, 0.11)	0.91 (0.79, 1.04) 0.96 (0.78, 1.19)	Only active trachoma cases treated
Peach 1986 (22)	Treatment: topical oily tetracycline daily for 5 days once a month for 3 months Comparison: no treatment	3 mo. 641	78.1%	−0.09 (−0.15, −0.02)	0.89 (0.81, 0.98)	Community-wide treatment
Shukla 1966 (43)	Treatment 1: topical sulphafurazole + oral sulphadimethoxine twice daily for 5 consecutive days every month for 5 months/bi-weekly for 5 months Treatment 2: topical sulphafurazole twice daily for 5 consecutive days every month for 5 months Comparison: no treatment	3 mo. 104 12 mo. 104	85.7% 83.3%	−0.39 (−0.55, −0.23) −0.27 (−0.44, −0.10)	0.55 (0.41, 0.73) 0.68 (0.52, 0.88)	Treatments were pooled and compared with control
Woolridge 1967 (45)	Treatment: topical tetracycline twice daily for 6 consecutive days per week for 6 weeks Comparison: no treatment	3 mo. 322 12 mo. 322	85.8% 83.3%	−0.17 (−0.26, −0.08) −0.10 (−0.19, −0.01)	0.80 (0.71, 0.90) 0.89 (0.79. 0.99)	Only active trachoma cases treated
Oral vs topical antibiotic						
Bowman 2000 (24)	Treatment: oral azithromycin (single dose, 20 mg/kg) Comparison: unsupervised 6 week course of topical					

Table II. (C)

Author/year	Intervention and comparison	No. subjects	Control group risk [baseline risk]	Risk difference (95% CI)	Relative risk (95% CI)	Comments
Darougar 1980b (25)	Treatment: oral doxycycline one dose per month for 12 months	3 mo. 82				
	Comparison: topical oxytetracycline twice daily for 7 consecutive days every month for 12 months	12 mo. 82				

Schachter 1999ii (21)	Treatment: oral azithromycin once a week for 3 weeks (adults 1 g, children 20 mg/kg)	3 mo. 1600	6.1%	−0.01 (−0.04, 0.01)	0.76 (0.50, 1.15)	Community-wide treatment. Country: The Gambia
		12 mo.				
	Comparison: oxytetracycline once daily for 6 weeks	1197	15.7%	−0.07 (−0.11, −0.03)	0.55 (0.40, 0.75)	
Schachter 1999iii (21)	Treatment: oral azithromycin once a week for 3 weeks (adults 1 g, children 20 mg/kg)	3 mo. 2577	19.2%	0.03 (0.00, 0.06)	1.16 (1.00, 1.36)	Community-wide treatment. Country: Tanzania
		12 mo.				
	Comparison: oxytetracycline once daily for 6 weeks	2276	20.6%	0.04 (0.01, 0.07)	1.19 (1.02, 1.40)	
Shukla 1966 (43)	Treatment: oral sulphadimethoxine biweekly or weekly dose for 5 months	3 mo. 125	85.7%	−0.22 (−0.37, −0.07)	0.74 (0.61, 0.91)	Treatments were pooled and compared with control
	Comparison: sulphafurazole twice daily for 5 consecutive days every month for 5 months	12 mo. 145	56.5%	−0.13 (−0.29, 0.03)	0.77 (0.55, 1.07)	
Tabbara 1996 (46)	Treatment: oral azithromycin (20 mg/kg)	3 mo. 64	37.5%	0.09 (−0.15, 0.33)	1.25 (0.70, 2.23)	Only active trachoma cases treated
	Comparison: topical tetracycline twice daily for 5 consecutive days per week over 6 weeks	6 mo. 56	34.6%	0.02 (−0.23, 0.27)	1.06 (0.52, 2.15)	
Face washing and health education						
Face washing studies						
Peach 1987 (22)	Treatment 1: Tetracycline eye drops daily for one week every month for 3 months	3 mo. 1143	75.8%	Eye drops −0.09 (−0.16, −0.01)	Eye drops 0.88 (0.79, 0.98)	No meta-analysis conducted as trials differed in several respects.
	Treatment 2: Eye washing daily for 3 months			Eye washing 0.02 (−0.06, 0.10)	Eye washing 1.02 (0.93, 1.13)	All participants lost to follow up assumed to hav1e5Tj/F5io15, 0.33)upeducatith
	Treatment 3: Tetracycline eye drops plus eye washing					
	Comparison: No treatment			Eye drops + eye washing −0.07 (−0.15, 0.01)	Eye drops + eye washing 0.91 (0.82, 1.01)	

Table II. (*C*)

Author/year	Intervention and comparison	No. subjects	Control group risk [baseline risk]	Risk difference (95% CI)	Relative risk (95% CI)	Comments
Health Education						
Resnikoff 1995 (23)	Treatment: Health education one week per month for 6 months. Comparison: No health education	6 mo. 1810	7.1%	−0.03 (−0.06, 0.00)	0.59 (0.34, 1.04)	Comparisons were only done between one village and the control village.
Edwards 2006 (18)	Treatment: Communities targeted by NGOs and SAFE strategy (surgery, antibiotics, face washing, and environmental improvements) which received radio broadcasts and may have received video screenings. Comparison: Communities received radio broadcasts only	12 mo. 1842	66.7%	−0.04 (−0.09, 0.01)	0.94 (0.87, 1.01)	
Environmental studies						
Fly control interventions						
Emerson 1999 (15)	Treatment: spray with 0.175% volume to volume deltamethrin up to 20 m outside each village. Twice weekly in the wet season and once weekly in the dry season for 3 months. Comparison- No insecticide spray.	3 mo. 1134	15.7%	−0.10 (−0.10, −0.09)□	0.39 (0.27, 0.56)□	Both Emerson 1999 and Emerson 2004 assess insecticide spray but no meta-analysis conducted because of significant clinical heterogeneity.
Emerson 2004 (1)	Treatment: Spray with water soluble permethrin for 6 months. Comparison: No intervention	6 mo. 4850	6.2%	−0.04 (−0.04, −0.03)□	0.44 (0.33, 0.59)□	
West 2006 (16)	Intervention: All members of intervention balozi were given a single dose of azithromycin and then households and surrounding areas were sprayed with insecticide (10% permethrin in water) throughout the year. Comparison: All members of control balozi were given a single dose of azithromycin.	6 mo. 229	33%	−0.13 (−0.25, −0.02)□	0.60 (0.37, 0.96)□	Observations were on children aged <8 years.
		12 mo. 206	44%	−0.01 (−0.15, 0.13)□	0.97 (0.70, 1.34)□	Observations were on children aged <8 years.
Latrine provision						
Emerson 2004 (1)	Treatment: Latrine provision Comparison: No intervention	6 mo. 2836	6.2%	−1.21 (1.22, −1.20)□	0.72 (0.53, 0.96)□	Analysis was by cluster, and not individual n = 7 in each group.

□ The RR and RD is calculated in this review at the individual level without adjusting for clustering.

DOI: 10.1002/ebch.172

Table III. Severe trachoma

Table IV. (*C*)

Author/ year	Intervention and comparison	No. subjects	Control group risk	Risk difference	Relative risk (95% CI)	Comments
Dawson 1969ii (26)	Treatment: oral trisulfapyrimidines 3 daily during 3 consecutive weeks Comparison: lactose-placebo 3 daily for 3 consecutive weeks	3 mo. 29	71.4%	−0.25 (−0.59, 0.10)	0.65 (0.35, 1.23)	
Hoshiwara 1973 (27)	Treatment: oral doxycycline once daily for 5 consecutive days every week up to 28 doses in 40 days Comparison: placebo once daily for 5 consecutive days every week up to 28 doses in 40 days	3 mo. 103	53.7%	−0.05 (−0.24, 0.15)	0.81 (0.63, 1.04)	
Oral versus topical antibiotic						
Dawson 1997 (28)	Treatment 1: oral azithromycin (1 dose of 20 mg/kg) Treatment 2: oral azithromycin (1 dose/week for 3 weeks) Treatment 3: oral azithromycin 1 dose every 4 weeks for 6 doses) Comparison: topical oxytet/polymyxin + oral placebo once daily for 5 consecutive days every 28 days for 6 times	3 mo. 160 12 mo. 138	7.3% 15.2%	−0.03 (−0.12, 0.06) −0.08 (−0.22, 0.05)	0.57 (0.14, 2.30) 0.44 (0.15, 1.29)	
Schachter 1999i (21)	Treatment: oral azithromycin once a week for 3 weeks (adults 1g, children 20 mg/kg) Comparison: oxytetracycline once daily for 6 weeks	3 mo. 1782 12 mo. 1914	4.5% 6.2%	−0.04 (−0.05, −0.02) −0.03 (−0.05, −0.01)	0.22 (0.11, 0.44) 0.48 (0.31, 0.74)	Community-wide treatment
Schachter 1999ii (21)	Treatment: oral azithromycin once a week for 3 weeks (adults 1 g, children 20 mg/kg) Comparison: oxytetracycline once daily for 6 weeks	3 mo. 1453 12 mo. 1126	13.6% 13.5%	−0.07 (−0.10, −0.04) −0.05 (−0.09, −0.01)	0.51 (0.37, 0.70) 0.62 (0.44, 0.87)	Community-wide treatment
Schachter 1999iii (21)	Treatment: oral azithromycin once a week for 3 weeks (adults 1 g, children 20 mg/kg) Comparison: oxytetracycline once daily for 6 weeks	3 mo. 2538 12 mo. 2236	6.2% 8.0%	−0.02 (−0.04, 0.00) 0.00 (−0.02, 0.02)	0.68 (0.49, 0.95) 1.01 (0.76, 1.35)	Community-wide treatment
Darougar 1980b (25)	Treatment 1: topical oxytetracycline twice daily for 7 consecutive days every month for 12 months Treatment 2: doxycycline one dose per month for 12 months Comparison: vitamin pills 1 dose per month for 12 months	3 mo. 82 12 mo. 82	2.6% 2.6%	0.13 (0.01, 0.25) −0.03 (−0.05, 0.00)	6.05 (0.78, 46.95) 2.59 (0.28, 23.88)	

Active Trachoma

Antibiotics and active trachoma

One re ie e amined he an ibio ic arm of he SAFE ra eg b mea ring he effec of an ibio ic rea men on bo h ac i e rachoma and . i - . . . infec ion of he conj nc i a (de ned a a po i i e n cleic acid ampli ca ion e re l from an oc lar ab) (2). There re 15 incl ded rial ha randomi ed 8,678 par icipan and looked for he pre ence of ac i e rachoma a ei her hree or 12 mon h af er ar ing rea men i The re ie di ided he anal i of die in o ho e ho recei ed an an ibio ic (opical or oral) i er placebo/no

DOI: 10.1002/ebch.172

rea men and ho e ho recei ed oral er opical an ibio ic . Trial par icipan ere all re iden in area here rachoma i endemic, b ere from a n mber of differen co n rie and re ided in ario loca ion , incl ding illage and boarding chool . One e of die randomi ed en ire comm ni ie ra her han indi id al o he in er en ion (21). The WHO c rren l recommend ei her opical e rac cline or oral a i hrom cin for indi id al and ma i rea men of rachoma, al ho gh he die ha e ed ario an ibio ic rea men regimen.

(A) A / S mmar a i ic co ld no be performed in die here oral and opical an ibio ic ere compared i h placebo or i h no rea men d e o he degree of he erogenei .

(I) Ac i e rachoma a hree mon h

When mea ring he effec of rea men i h an ibio ic on ac i e rachoma a hree mon h , he poin e ima e ere con i en i h he an ibio ic ha ing an effec i h a ri k red c ion. The re l ere a follo :

(a) an an ibio ic
  (i) RR < 1 in i rial ($P < 0.05$)
  (ii) RR < 1 in o rial (non igni can (n. .))
  (iii) RR > 1 in one rial (n. .)

(b) oral an ibio ic
  (i) RR < 1 in hree rial ($P < 0.05$)
  (ii) RR < 1 in o rial (n. .)
  (iii) RR > 1 in one rial (n. .)

(c) opical an ibio ic
  (i) RR < 1 in fo r rial ($P < 0.05$)
  (ii) RR < 1 in one rial (n. .)
  (iii) RR > 1 in one rial (n. .)

(II) Ac i e rachoma a 12 mon h

The rela i e ri k of d par icipan e hibi ing ac i e rachoma a 12 mon h a er rea men i h an ibio ic ere con i en i h here being no effec of an ibio ic a 12 mon h . The re l are a follo :

(a) an an ibio ic
  (i) RR < 1 in hree rial ($P < 0.05$)
  (ii) RR > 1 in hree rial (n. .)

(b) oral an ibio ic
  (iii) RR < 1 in one rial ($P < 0.05$)
  (i) RR < 1 in one rial (n. .)
  ( ) RR > 1 i(1 in one rial (n. .)
  < 0.

(i)8376(Pn1 85 d 1 in h icip/F13/F29(n)-3Tc128.5(0Tc128.5Tf29(-0.06)494mbio ic) TJ1.888B205498f1

	2) Unilamellar surgery and unsupervised tetracycline eye ointment twice a day for 2 weeks					
West 2006 (19)	1) Trichiasis surgery followed by 1g of oral azithromycin for the patient or single-dose azithromycin (20 mg/kg up to 1g) for the patient and all household members 2) Trichiasis surgery followed by twice per day topical tetracycline for six weeks	When recurrence was detected or at 12 mo. 1406	6.8%	−0.03 (−0.06, −0.01)	0.53 (0.33, 0.85)	Mean ages were 50 (household azithromycin), 48.5 (patient only azithromycin), and 48 (tetracycline)
Zhang 2006 (20)	1) Bilamellar tarsal rotation surgery and a single dose of azithromycin immediately after surgery 2) Bilamellar tarsal rotation surgery and placebo					

administered a[4.1(eline)(er5.5(r]Tl(-280()-5.2(20)-283.5(m)-5.azithru50)-283-4.)8)3.7)-276.8()>ose(household azithromycin),

Oral antibiotics versus topical antibiotics

There ere e rial a e ing oral er opical an ibio ic on i . infec ion. A hree mon h , a igni can red c ion in rela i e rik a fo nd in hree of he fo r rial ha compared a i hrom cin o a opical an ibio ic hil he fo r h ho ed a non- igni can red c ion (21,28). A 12 mon h , here a a igni can red c ion in o rial , Da on . fo nd ome red c ion and Schach er . ho ed ome increa e (21,28). The f h rial compared oral do c cline i h opical o e rac - cline and fo nd a non- igni can increa e a bo h hree and 12 mon h (25).

Process indicators

Ac i e and e ere rachoma and e idence of infec ion ih are he endpoin of mo rial and ha e been di o ed abo e. Ho e er, he re ie al o a e ed proce indica or (clean face and -e e con ac) ha are no in he able and are repor ed in he na ra i e belo .

Clean faces

In he onl face- a hing d ha addre ed hi o come, he percen age of children i h clean face increa ed in bo h he combina ion face a hing pl an ibio ic illage and he an ibio ic alone illage , in compari on o he con rol (17). The effec a grea er in he face a hing pl an ibio ic combina ion illage compared o he an ibio ic alone illage : face a hing and an ibio ic combina ion; 18% a ba eline; o 33% a i mon h ; and 35% a 12 mon h , compared o he an ibio ic alone gro p: 19% a ba eline; 30% a i mon h ; and 26% a 12 mon h . The difference be een he gro p a i a i icall igni can (P < 0.05).

Fly-eye contact

T o die mea red freq encie of -e e con ac a a prode indica or (1,15). The r d repor ed ha -e e con ac b he rachoma ec dr, a decrea ed bi 96% i h he comm ni - ide pra ing of del ame hrin in compari on o con rol . The econd d repor ed a red c ion in -e e con ac b of 88% i h comm ni - ide in ec icide pra ing i h perme hrin, and a 30% red c ion in illage ha had redei ed la rine pro i ion compared o con rol . All hree red c ion ere a i icall igni can (P < 0.05).

Trichiasis surgery

The an ibio ic, face a hing and en ironmen al componen of he SAFE ra eg are ed o con rol ran mi ion. The rger componen aim o correc rachoma o richia i , hich occ r a a re l of repea ed d cle of infec ion and re ol ion of o lar infec ion; i no , in i elf, ca ed b o rren ac i e rachoma. The primar o come of rger rial i all he ra e of rec rrence of richia i af er rger . See Table IV for re l from he rger rial .

Surgery techniques

In one d , here a no igni can difference in he rec rrence ra e a hree mon h be een he bilamellar ar al ro a ion and ran er ar om and lid margin ro a ion (similar o Trab me hod) (29). In ano her d , bilamellar ar al ro a ion a no more effec i e han ar al ad ance and ro a ion RR: 0.53 (0.27, 1.06), ar al groo ing RR: 0.35 (0.17, 0.75), e er ion plin ing RR: 0.32 (0.15, 0.68) or ar al ad ance RR: 0.32 (0.15, 0.66) (30). In a hird d , ho e er, bilamellar ar al ro a ion a more effec i e in rea ing ho e i h minor richia i (one o e la he o ching he e e) han de ro ing he la he b cr o herap or elec rol i RR: 0.19 (0.09, 0.40) (31). In ho e i h major richia i (i or more la he o ching he e e), bilamellar ar al ro a ion a more effec i e han ar al ad ance and ro a ion RR: 0.40 (0.25, 0.64). There a in f cien enrolmen o a e he e o come in ho e i h defec i e lid-do re.

Non-operative treatment of trichiasis

A hree mon h , one d fo nd ha ing icking ape alone a igni can l more effec i e han epila ion alone RR: 0.29 (0.15, 0.56) (32). The difference be een epila ion alone and icking ape follo ed b epila ion a no a i icall igni can (P = 0.5). The a hor repor ed good clinical a a : no la he o ching he e eball, comple e lid-do re, no con j nc i al h peraemia and no inplanned rea men nec- e ar d ring follo p.

Post-operative antibiotic treatment

Three rial ha e e amined he effec of po -opera i e a i hrom cin on he rec rrence of richia i (19,20,33). T o of he e ere p bli hed b eq en o he la pda e of he rger re ie (20,19). One rial fo nd no difference in richia i rec rrence ra e be een pa ien ho had ecei ed po opera i e a i hrom cin (41.2%) and ho e ho did no (41.4%) hen a e ed a 12 mon h (33). Ano her rial fo nd no difference in he o m la i e inciden richia i rec rrence ra e be een he a i hrom cin rea ed gro p (29.8%) and he placebo gro p (28.1%) a 12 mon h (20). Addi- ional b- e anal i gge ed ha here ma be ome bene from a i hrom cin for indi id al ho had major richia i . The hird and large d con- cl ded ha a ingle do e of a i hrom cin a a o- cia ed i h a 33% red c ion in richia i rec rrence, compared i h a 6- ee k regimen of opical e rac - cline (19).

DOI: 10.1002/ebch.172

componen of SAFE (10,11,38,39). Mabe . . (1992), Mabe . . (2003), and K per . . al o incl de efi l di o ion on he F and E compo-nen (37,40,41). The e non- ema ic re ie foc mainl on he n mero ob er a ional die on ra-choma. Al ho gh i ho ld be no ed ha rachoma ha di appeared from E rope and Nor h America, and no from par of he Middle Ea , a a re l of impro ed li ing condi ion and no a a re l of program ba ed on an ibio ic di rib ion or rgen , he in er en ion for F and E o rien l being adop ed in endemic area ha e no been rigoro l e ed. Of no e, here ha e been no clinical rial of impro ing acce o a er, e of la rine , h giene promo ion, rachoma health ed -ca ion, illage cleaning, on mo ing dome ic animal a a from li ing q ar er , all of hich are o rren l being ed a rachoma con rol mea re in one or more co n rie .

Conclusions

Implications for practice

The con rol of blinding rachoma i ba ed on he WHO en dor ed in egra ed SAFE ra eg . Whil i i no po ible o a e ha here are i f cien rigoro clinical rial data o ppor or refi e he e of he SAFE ra eg for blindne pre en ion hro gh rachoma con rol in i en ire , here i ome good e idence for each of he epara e componen .

There i a rea onabl good e idence ba e o g ide prac ice in he rgical managemen of rachoma o richia i . S rger ho ld in ol e a fi ll hickne inci-ion and ro a ion of he erminal por ion of he ar . S rger can be afe and effec i el performed b appropria el rained oph halmic n r e . Re l can be eq all good for rger performed a he com-m ni le el, hich can igni can l impro e p ake of hi in er en ion. Re l of he po -opera i e e of a i hrom cin are mi ed. Gi en he freq en con-j nc i al bac erial infec ion in people i h richia i , i i appropria e o e ome form of po opera i e an ibio ic.

The e idence for an ibio ic in rachoma con rol i con i en i h a mode i k red c ion in clinicall ac i e rachoma a hree mon h po rea men , b no a el e mon h . The da a igge i ha oral

The ı p ake of ı rger i of en di appoin ingl lo par io lar among omen ho ha e a di propor ion- a e h rden of di ea e. The barrier o ı rger prob abl ar and need o be a e ed in differen region . S ra egie de igned o o ercome he e, e peciall for omen in ı ral area , need o be e ed.

Antibiotics

Ma an ibio ic di rib ion program are being e ı p in man rachoma endemic co n rie . For e hical rea on , i i no ı nlikel ha here ill e er be a rial ha in e iga e he effec i ene of ma antibio ic again a placebo a here i a con en ı ha he o ren al erna i e (oral a i hrom cin and opical e rac cline) probabl ha e ome effec . Ho e er, here i a pre ing need for e idence o help op imi e heir ı e. I remain ı ncer ain ho ho ld be gi en rea men , ho of en and for ho long. Compara i e rial of differen di rib ion ra egie are needed. Gi en ha he ign of clinicall ac i e rachoma can per i long af er he infec ion ha bee n cleared b an ibio ic , here i po en ial a role for a imple poin of care e for he infec ion o de ermine heher a comm ni need an ongoing rea men program.

Facial cleanliness

The combina ion of a ailable rial and ob er a ional da a i con idered ı f cien o arran he con in a- ion of h giene promo ion and face a hing in ra- choma con rol program . Ho e er a repea of he original face a hing rial ha incl ded a proce indica or a i hrom cin rea men and face a hing, and ha had bo h clinical and microbiological o - p , ı ld be e remel ı ef l. Tgc-585cgc-585en d

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