

BIOMEDICINE

Trachoma stopped by mass antibiotics

Results from an experiment in three African countries plagued by trachoma, a blinding eye disease, indicate that dosing entire villages with antibiotic pills can stifle the ailment.

In trachoma, the bacterium *Chlamydia trachomatis* infects the eye and causes swelling of the eyelid. This makes the eyelashes turn inward and scratch the cornea. Repeated infections lead to blindness (SN: 5/29/99, p. 351).

An international team of scientists tested a total of 5,502 people in pairs of villages in Egypt, Tanzania, and Gambia. *C. trachomatis* infection rates ranged from 17 to 44 percent. The researchers then gave everyone in one village in each country azithromycin, erythromycin, or amoxicillin pills once a week for up to 3 weeks. People in the other village got eye ointment containing tetracycline, the common treatment for trachoma, once a day for up to 6 weeks. The researchers retested the villagers 2 to 4 months and again 12 to 14 months after medication.

Both treatments were initially successful. At the first follow-up, 95 percent of infected villagers who received at least one dose of azithromycin were free of the microbe. Of those who got at least 4 weeks of tetracycline eye ointment, 82 percent were uninfected, researchers report in the Aug. 21 LANCET.

A year later, infection rates held between one-quarter and one-half of prior levels in the three villages where tetracycline had been administered. The oral antibiotics had worked even better in all three countries. It had slashed trachoma infection to only 7 percent of what it had been in the Egyptian village, with smaller reductions elsewhere, says study coauthor Sheila K. West of Johns Hopkins Medical Institutions in Baltimore.

Tetracycline ointment costs less than \$1 for the 6-week dosage period, she says, whereas azithromycin costs up to \$20 for the three doses. However, patients are more likely to take the three pills of azithromycin than the uncomfortable tetracycline eye ointment. Indeed, poor compliance with the treatment schedule accounted for the lower effectiveness rates of the tetracycline, she says.

—N.S.