
Selected Summaries

Povidone-Iodine in Ophthalmia Neonatorum

[Isenberg J, Apt L, Wood M. A controlled trial of povidone-iodine as prophylaxis against ophthalmia neonatorum. *N Engl J Med* 1995, 332: 562-566).

Conjunctivitis in the first month of life, known as ophthalmia neonatorum continues to cause blindness because the agents used prophylactically to prevent this condition are not completely effective and are not widely available in many parts of the world. Povidone-iodine ophthalmic solution is an effective antibacterial agent with broad antibacterial and antiviral activity to which no bacteria are known to be resistant. It is far less expensive and less toxic than the agents currently used to prevent neonatal conjunctivitis.

A masked, prospective trial was conducted on 3117 infants born over a period of 30 months in a hospital in Kenya. Shortly after birth each infant received a 2.5% solution of povidone-iodine (n=1076); a 1% solution of silver nitrate (n=929) or 0.5% erythromycin ointment (n=1112) in both eyes. Randomization was achieved by rotating the three medications after each was used for a week.

Of the neonates treated with povidone-iodine, 13.1% had infectious conjunctivitis as compared with 17.5%

of those treated with silver nitrate ($p < 0.001$) and 15.2% of those treated with erythromycin ($p = 0.01$). Povidone-iodine was more effective against *Chlamydia trachomatis* than was silver nitrate ($p < 0.001$) or erythromycin ($p = 0.008$). Noninfectious conjunctivitis was also less common in the povidone-iodine group compared to the other two groups.

It is concluded that a 2.5% ophthalmic solution of povidone-iodine as prophylaxis against ophthalmia neonatorum is more effective than treatment with silver nitrate or erythromycin and it is less toxic and costs less.

Comments

The commonest organisms causing ophthalmia neonatorum are *N. gonorrhoeae* and *Chlamydia trachomatis*. Gonococcal infection is more severe and occurs early. Both can be prevented quite successfully by instillation of 1% silver nitrate at birth. However, ever since Crede introduced the practice of instillation of 1% silver nitrate in all newborns in 1861 it has been noticed that it can cause toxic/chemical conjunctivitis in a significant percentage of children. Also, evaporation in hot weathers tends to concentrate the solution on standing and this may cause more harm. Finally, failures are not uncommon. Hence a search for alternatives has always been on.

Two antibiotics, namely, tetracycline 1% ointment and erythromycin 0.5% ointment have been used extensively in the developed countries. The presumed advantages include their lower toxic-

ty(1) and better activity against *Chlamydia*. Teracycline has been shown to be as effective as silver nitrate in a controlled trial(2). However, failures with these two drugs also occur and they are more expensive.

Efficacy of povidone-iodine given before ocular surgery in preventing infection and its safety have been demonstrated earlier(3). Its safety in neonates in a small sample had also been studied earlier(4).

The advantages of povidone-iodine over other forms of ocular prophylaxis mentioned above are: (i) Broader antimicrobial spectrum; (ii) Bacterial resistance has never been reported; (iii) Cheaper; (iv) Stains the eyes yellow for a few hours and hence it can be confirmed that prophylaxis has indeed been given; (v) More efficacious and (vi) Less toxic. Thus the use of povidone-iodine as a topical antimicrobial agent appears promising although studies are required to determine its efficacy in treating different ocular infections and to identify any side effects associated with frequent use. Another consideration is the effect of yellow discoloration of eyes by povidone—iodine on our assessment of degree of neonatal jaundice.

Just in case readers are thinking as to why are we talking so much about ocular prophylaxis against the old fashioned disease, ophthalmia neonatorum, let us remember that it is still a common problem, is still one of the leading causes of blindness in early age and it is still mandatory by law to give some form of ocular prophylaxis to all newborns in United States and many other countries.

REFERENCES

1. Christian JR. Comparison of ocular reactions with the use of silver nitrate and erythromycin ointment in ophthalmia neonatorum prophylaxis. *JPediatr* 1-960,57:55-60.
2. Laga M, Plummer FA, Piot P, *et al*. Prophylaxis of gonococcal and chlamydial ophthalmia neonatorum: A comparison of silver nitrate and tetracycline. *N Engl J Med* 1988,318: 653-657.
3. Apt L, Isenberg S, Yoshimori R, Paez JH. Chemical preparation of the eye in ophthalmic surgery. III. Effect of povidone-iodine on the conjunctiva. *Arch Ophthalmol* 1984,102: 728-729.
4. Isenberg SJ, Apt L, Yoshimori R, Leake RD, Rich R. Povidone-iodine for ophthalmia neonatorum prophylaxis. *Am J Ophthalmol* 1994,118: 701-706.

Breastfeeding and Acute Appendicitis

[Pisacana A, Luca UD, Impagliazzo N, Russo M, Caprio CD, Caracciolo G. Breastfeeding and acute appendicitis. *BMJ* 1995, 310: 836-837].

Acute appendicitis is the commonest

reason for abdominal surgery in many countries, but its cause is unknown. Because breast feeding can modify the exposure or the type of immune response to some microbial agents during infancy, authors investigated the relation between infant feeding and acute appendicitis in a case incident, population based case-control study.

All 222 children admitted to

Santobone Pediatric Hospital, Naples, between 1 January and 30 November 1993 with histologically confirmed acute appendicitis were recruited for the study. Their mothers were interviewed during the stay in hospital by two nurses unaware of the objectives of the study. Controls were 222 children randomly selected from around 3000 attending 10 randomly selected primary schools in the Naples area that had been enrolled in a child health survey.

Relative risk was calculated by odds ratios with confidence intervals by Cornfield's method. Confounding and effect modification were investigated by stratified analysis. The mean duration of breast feeding was 96.9 days for cases and 130.2 days for controls (Mann-Whitney U test; two-tailed p value 0.001).

Stratified analysis showed that no factor among those analyzed (birth

weight, sex, type of delivery, maternal education, and number of other children in the household) confounded or modified the association between feeding and illness. Thus, the data indicate that children with acute appendicitis were less likely than controls to have been breastfed for a prolonged length of time.

Comments

The mean age of children with appendicitis in this study was 7.5 years. So, breastfeeding in the first few months of life provides protection against infections even upto seven and half years. It will not be a surprise if some other study shows that the protection lasts still longer.

Krishan Chugh,

Consultant,

Department of Pediatrics,

Sir Ganga Ram Hospital,

New Delhi 1W 060