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Prophylaxis of Cesarean Sections

To the Editor:

In a recent letter by Dougherty and Williams[1] published without editorial comment, the authors imply a link between cefotetan prophylaxis and a transient increase in postoperative wound infections following urgent cesarean sections. While they include the caveat that factors other than microbial resistance to cefotetan may have contributed to these infections, the reader is left with the unmistakable impression that this outbreak resulted from a failure of cefotetan as a prophylactic agent. No mention is made of other factors that may have contributed, however, including timing of prophylaxis, use of postoperative drains, commonality of operating room personnel, method and timing of skin preparation, etc. No microbiological data are presented to support the notion that cefotetan-resistant organisms lead to this outbreak.

In this era of cost consciousness, I believe it is unfortunate that such hypotheses are published without additional scientific support. In fact, there is no evidence that any second or third generation cephalosporin is superior to first generation cephalosporins in prophylaxis for cesarean section. A recent issue of the *Medical Letter on Drugs and Therapeutics*[2] advocates the use of a single dose of cefazolin for prophylaxis in high-risk cesarean sections. The three prospective studies[3-5] cited by Dougherty and Williams also fail to indicate any superiority of one agent over another, whether that agent be cefoxitin, cefotetan or cefazolin.

In any institution, small transient increases in infection rates are inevitable. In our experience, the mere recognition of the epidemic usually heralds its disappearance.

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REFERENCES

1. Dougherty SH, Williams VS. Prophylaxis for cesarean section: where to turn. Infect Control *Hosp* Epidemiol. 1990;11:9.
2. Antimicrobial prophylaxis in surgery. *Med Lett Drugs Ther*. 1989;31:105-108.
3. Galask RP, Weiner C, Petzold CR. Comparison of single dose cefmetazole and cefotetan prophylaxis in *women* undergoing primary cesarean section. *J Antimicrob Chemother*. 1989;23(suppl D):105-108.
4. Engel K, Schmidt W, Sonntag HG, Kees F. Comparative clinical and pharmacokinetic aspects of cefotetan versus cefoxitin plus metronidazole in vaginal hysterectomy. *Chemioterapia*. 1988;7:256-260.
5. Periti P, Mazzei T, Periti E. Prophylaxis in gynecological and obstetric surgery: a comparative randomized milti-center study of single dose cefotetan versus two doses of cefazolin. *Chemioterapia*. 1988;7:245-252.

Steve H. Dougherty, MD and Vickie S. Williams, DO, were asked to respond to this letter.

We appreciate Dr. Franks point that factors other than failure of antibiotic prophylaxis may have been responsible for the outbreak of postoperative infections experienced among our caesarean section patients and agree that the problem might well have been resolved by the substitution of prophylactic agents other than cefoxitin or cefotetan, i.e., cefazolin. However, cefazolin prophylaxis has been used intensively for many years in a variety of surgical settings, and in two recent comparative trials in cardiac surgery, it proved to be inferior to either cefamondole[1,2] or cefuroxime[2] in preventing wound infections. Such findings have led to speculation that prolonged use of cefazolin may have finally decreased its clinical usefulness.[3] We can only wonder whether or not the intensive use of cefotetan prophylaxis among our C-section patients over a three-year period may have likewise led to decreased drug effectiveness.

Some of our patients who developed infection received their first dose of cefotetan prophylaxis as much as two hours preoperatively; some received their first dose intraoperatively. Because the plasma half-life of cefotetan is 3 to 4.6 hours after intravenous injection, a two-hour delay between administration of an intital 2 g dose and the commencement of C-section should still have allowed for adequate tissue levels. Intraoperative administration of the first dose of antibiotic prophylaxis at the time of clamping of the umbilical cord is a common practice that appears to be effective.[4,5] Postoperative drains are uncommonly used as an adjunct to caesarean section and were not used in our patients. To our knowledge, no changes in operating room personnel were made in connection with the outbreak of infections.

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REFERENCES

1. Kaiser AB, Petracek MR, Lea JW, et al. Efficacy of cefazolin, cefamandole, and gentamicin as prophylactic agents in cardiac *surgery*. *Ann Surg*. 1987;206:791-797.
2. Slama TG, Sklar SJ, Misinski J, Fess SW. Randomized comparison of cefamandole, cefazolin, cefuroxime prophylaxis in open heart surgery. *Antimicrob Agents Chemother*. 1986;29:744-747.
3. Kernodle DS, Classen DC, Burke JP, Kaiser AB. Failure of cephalosporins to prevent *Staphylococcus aureus* surgical wound infections. *JAMA*. 1990;263:961-966.
4. Probst JR, Benrubi GI, Sanchez-Ramos L, Todd M. Comparison of one dose cefazolin versus one dose cefotetan for cesarean section prophylaxis. *J Fla Med Assoc*. 1989;76:1027-1029.
5. Duff P. Prophylactic antibiotics for cesarean delivery: a simple cost-effective strategy for prevention of postoperative morbidity. *Am J Obstet Gynecol*. 1987;157:794-798.