Comparison of Two Cephalosporins in the Surgical Treatment of Peritrochanteric Fractures

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I recently read with great concern a publication in your journal entitled, 'Antibiotic Prophylaxis in the Surgical Treatment of Peritrochanteric Fractures: A Comparative Trial between Two Cephalosporins' [1]. The cost-effective use of cephalosporins, particularly broader-spectrum agents, has long been one of my professional interests [2-4]. Many of the newer cephalosporins and even (3-lactamase inhibitor combinations have been utilized with success in preventing perioperative infectious morbidity in a wide variety of surgeries [5]. However, limited cost-effectiveness has been demonstrated for these newer compounds unless properly utilized as single-dose or short-course (24-hour) regimens.

Cefotaxime, the cephalosporin comparison control [1], has been widely investigated as a cost-effective, single-dose alternative to older, reliable drugs such as cefazolin [5]. However, in the study of Karachalios et al. [1] an extended, 9-dose regimen was employed. This was stated to be the 'standard schedule in use in our department', but this is certainly not the most pragmatic, cost-effective prophylactic use of cefotaxime and not used in our studies since 1985. Personal experience with 305 evaluable single-dose cefotaxime orthopedic cases produced 97.7% efficacy at a current single-dose drug cost of only \$ 11.00 (includes administration costs) [4].

However, I must agree with the authors' conclusions that the two compared regimens (ceftriaxone vs. cefotaxime) were equally effective, safe and potent alternatives for orthopedic surgery prophylaxis [1]. But, to the contrary, I must argue that comparisons of the costs of prophylaxis and nursing care should ethically consider only single-dose statistics. Under these conditions the cost-efficacy results would be significantly different, favoring the cephalosporin with the lowest per gram acquisition cost, e.g. cefotaxime.

In orthopedic surgery, the principal infecting pathogens still remain the staphylococci, but increasing numbers of gram-negative isolates favor switching to broader-spectrum cephalosporins. One of these newer candidates (ceftriaxone) has a very high protein binding ($\sim 95\%$) that limits its antistaphylococcal activity against organisms isolated from bone and joint infections [6, 7]. Other structurally similar agents have potent antimicrobial action unaffected by human serum albumin binding [7].

Finally, journal readers of such prophylaxis trial results [1] should remember that ceftriaxone in a single-dose regimen was proven as effective as a 'multi-dose' schedule of another cephalosporin. The comparison agent, cefotaxime, was dosed atypically beyond its proven single-dose potential [5]. The concluding com-

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parisons must be based on (1) comparable 1 these information can the ultimate selection
gram x 1 dosing schedules, (2) local cost/gram of an ethical cephalosporin for orthopedic
data, (3) the adverse impact of some drug/host procedure prophylaxis be made, factors and
(4) drug safety. Only armed with

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Erratum

The last paragraph of the 'Results' section of the We conclude that the overall advantage of
cefuroxime article by Keness et al., 1992;38:14-16, should now read: versus cefonicid lies at
6.3% (p ^0.005).

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