

CORRESPONDENCE

9. Stapcoole PW: Lactic acidosis. *Endo Metab Clin North Am* 1993; 22:221-44

10. Mizock BA, Falk JL: Lactic acidosis in critical illness. *Crit Care Med* 1992; 20:80-93

11. Lalau JD, Lacroix C, Compagnon P, Cagny B, Rigaud JP, Bleichner G, Chauveau P, Dulbecco P: Role of metformin accumulation in metformin-associated lactic acidosis. *Diabetes Care* 1995; 18:779-84

12. Lambert H, Isnard F, Delorme N, Claude D, Bollaert PE, Straczek J, Larean A: Approche physiopathologique des hyperlactatemies pathologiques chez le diabetique. *Ann Fr Anesth Reanim* 1987; 6:88-94

13. McMurray JF: Wound healing with diabetes mellitus. *Surg Clin North Am* 1984; 64:769-78

(Accepted for publication February 23, 1998.)

Anesthesiology

1998; 89:267

© 1998 American Society of Anesthesiologists, Inc.

Lippincott-Raven Publishers

Specific Therapies of Biguanide-induced Lactic Acidosis

To the Editor:—Mercker *et al.*¹ reported a case of severe biguanide-induced lactic acidosis. However, the authors did not discuss specific therapies. In such case, the administration of sodium dichloroacetate (DCA) should have been considered. DCA is an antidiabetic agent that activates the pyruvate dehydrogenase complex, the mitochondrial enzyme that catalyzes the conversion of pyruvate to acetyl-coenzyme A and carbon dioxide. In dogs DCA has been reported to correct lactic acidosis induced by phenformin, another biguanide that induces lactic acidosis more commonly.² In the patient described, an ongoing infection could have contributed to the overproduction of lactate. Even in endotoxin-induced lactic acidosis, DCA administration has been shown to reduce blood lactate levels.^{3,4} Administration of DCA could reduce plasma lactate levels in patients with lactic acidosis caused by various etiologies, even though in a large clinical trial, such intervention did not improve survival rates.⁵

Jean-Charles Preiser, M.D.
Jean-Louis Vincent, M.D., Ph.D.
 Department of Intensive Care
 Erasme University Hospital
 Route de Lennik 808
 B-1070 Brussels
 Belgium

References

1. Mercker SK, Maier C, Neumann G, Wulf H: Lactic acidosis as a serious perioperative complication of antidiabetic biguanide medication with metformin. *ANESTHESIOLOGY* 1997; 87:1003-5

2. Park R, Arief AI: Treatment of lactic acidosis with dichloroacetate in dogs. *J Clin Invest* 1982; 70:853-62

3. Preiser JC, Moulart D, Vincent JL: Dichloroacetate administration in the treatment of endotoxin shock. *Circ Shock* 1990; 30:221-8

4. Curtis SE, Cain SM: Regional and systemic oxygen delivery/uptake relations and lactate flux in hyperdynamic, endotoxin-treated dogs. *Am Rev Respir Dis* 1992; 145:348-54

5. Stacpoole PW, Wright EC, Baumgartner TG, Bersin RM, Buchalter S, Curry SH, Duncan CA, Harman EM, Henderson GN, Jenkinson S, Lachin SM, Lorenz A, Schneider SH, Siegel SM, Summer SW, Thompson D, Wolfe CL, Zorovich DM: A controlled clinical trial of dichloroacetate for treatment of lactic acidosis in adults. *N Engl J Med* 1992; 327:1564-9

(Accepted for publication February 23, 1998.)

Anesthesiology

1998; 89:267-8

© 1998 American Society of Anesthesiologists, Inc.

Lippincott-Raven Publishers

In Reply:—We appreciate the interest and comments of our colleagues regarding our case report and would like to thank the editorial board for the opportunity to respond.

We agree with Lustik *et al.* that a patient's diabetes mellitus should be under good control perioperatively. Therefore we would not stop metformin administration without starting an alternative therapy if appropriate.

Nevertheless, we are much more concerned about perioperative metformin medication than Lustik *et al.* are. The patient mentioned

in our case report was treated according to the recommendations suggested by Lustik *et al.* He presented no contraindications for metformin (except low caloric input) until he developed severe lactic acidosis. Therefore stopping metformin could prevent a rare, but significant, risk for the patient, whereas the potential benefits of continuing the drug are rather vague.

According to the new manufacturer's recommendations in Germany, metformin should be omitted 2 days before and after general anesthesia. The risk to develop perioperative problems that would