acid–base composition,[18, 19] and the dissociation between arterial and extracellular $/H^+/$, as shown here, offers a valid excuse for the lack of such correlation. $/H^+/_{\bar{v}}$ in all our bled animals fatally shocked exceeded 65 mμEq/l, while remaining below 60 mμEq/l in all those which remained alive during the period of observation. On the other hand, the administration of tris buffer, known to correct intracellular acidosis, fails to improve survival rate in hemorrhagic shock,[20, 21] and extracellular acidosis of comparable severity (although of shorter duration) may occur in exercise.[22] Consequently, our experiments should not be interpreted as suggesting that extracellular acidosis is causally related to irreversibility, but $/H^+/_{\bar{v}}$ does appear to have a closer relationship to prognosis than $/H^+/_A$.

Inderal was supplied by Imperial Chemical Industries of Australia and New Zealand, Ltd.; Dibenzyline was supplied by Smith, Kline and French (Australia), Pty. Ltd.; their support is gratefully acknowledged. John Frazer and Margaret Horvat gave skilful technical assistance.

References

1. Cannon WB: Acidosis in cases of shock, hemorrhage and gas infection. JAMA 70:533–535, 1918
2. Ramachandran PR, Fairly HB, Laws AK: Central venous blood as an index of acid-base oxygenation status. Canad Anaesth Soc 15: 332–346, 1968
3. Mitchell AM, Cournand A: The fate of circulating lactic acid in the human lung. J Clin Invest 34:474–476, 1955
4. Farhi LE: Gas stores of the body, Handbook of Physiology, section 3, Respiration, vol 1. Edited by WO Fenn and H Rahn. Washington, American Physiological Society, 1965, pp 873–885
5. Longobardo GS, Cherniak NS, Staw I: Transients in carbon dioxide stores. IEEE Trans Biomed Engin 14:182–191, 1967
6. Cherniack NS Longobardo GS: Oxygen and carbon dioxide gas stores in the body. Physiol Rev 50:196–243, 1970
7. Zahn RL Weil MH: Central venous blood for monitoring pH and P_{CO_2} in the critically ill patient. J. Thorac Cardiovasc Surg 52:105–111, 1966
8. Brown EB Jr, Kim WG, Moorhead FA Jr: Intracellular pH during metabolic acidosis of intracellular and extracellular origin. Proc Soc Exp Biol Med 126:595–599, 1967
9. Brandfonbrener M, Whang R: Effect of respiratory alkalosis on survival in hemorrhagic shock. Circ Res 21:461–468, 1967
10. Halmagyi DFJ, Gillett DJ, Irving MH: Partial and "complete" adrenergic blockade in posthemorrhagic shock. J Appl Physiol 22: 487–494, 1967
11. Halmagyi DFJ, Irving MH, Varga D: Effect of adrenergic blockade on the metabolic response to hemorrhagic shock. J Appl Physiol 25:384–389, 1968
12. Zierott G, Papova E, Lundsgaard-Hansen P: Combined adrenergic blockade in experimental hemorrhagic hypotension. Pflueger Arch Ges Physiol 310:1–15, 1969
13. Olson GF: Optimal conditions for the enzymatic determination of l-lactic acid. Clin Chem S:1–8, 1962
14. Bell DJ, Schloerb PR: Cellular response to endotoxin and hemorrhagic shock. Surgery 60:69–76, 1966
15. Eichenholz AR, Mulhausen O, Anderson EW, *et al.*: Primary hypocapnia: A cause of metabolic acidosis. J Appl Physiol 17:283–288, 1962
16. Refsum HE: Relationship between state of consciousness and arterial hypoxaemia and hypercapnia in patients with pulmonary insufficiency breathing air. Clin Sci 25:361–367, 1963
17. Baue AE, Tragus ET, Parkins WM: Effect of sodium chloride and bicarbonate in shock with metabolic acidosis. Amer J. Physiol 212:54–60, 1967
18. Cloutier CT, Lowery BD, Carey LC: Acid–base disturbances in hemorrhagic shock. Arch Surg 98:551–557, 1969
19. Wilson RF, Krome R: Factors affecting prognosis in clinical shock. Ann Surg 169:93–101, 1969
20. Bergentz SE, Brief DK: The effect of pH and osmolality on the production of canine hemorrhagic shock. Surgery 58:412–419, 1964
21. Selmonosky CA, Goetz RH, State D: The role of acidosis in the irreversibility of experimental hemorrhagic shock. J Surg Res 3:491–496, 1963
22. Cruz JC, Rahn H, Farhi LE: Mixed venous P_{O_2}, P_{CO_2}, pH and cardiac output during exercise in trained subjects. J Appl Physiol 27:431–434, 1969

Drugs

PENTAZOCINE ANALGESIA In a double-blind assay, *d*-pentazocine was compared with *l*-pentazocine given principally for postoperative pain. It appears that analgesia resides principally in the *l*-isomer. (*Forrest, W. H., Jr., and others: Analgesic and Other Effects of the d- and l-Isomers of Pentazocine, Clin. Pharmacol. Ther. 10: 468 (July) 1969.*)