DEATH-CAP POISONING

SIR,—We are concerned that your editorial [16] does not mention the use of hæmodialysis in the treatment of death-cap poisoning. In experimental poisoning of mice with lethal doses of amanitin, successful treatment of 30–50% with substances such as phenylbutazone, penicillin, chloramphenicol, sulphamethoxazole, and cytochrome C prompt you to state that " possible benefits of these substances should be put to clinical trial ".

Early hæmodialysis has so far proved successful in a series of 7 patients with death-cap poisoning treated in this way,[17–19] at least 3 of whom had taken a lethal dose. In another 11 cases [20] an 80% success-rate was achieved. We cannot judge from these reports whether the success-rate

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15. Strandgaard, S., Sengupta, D., MacKenzie, E. T., Rowan, J. O., Lassen, N. A. Unpublished. See *Lancet*, March 10, 1973, p. 526.
16. *Lancet*, 1972, i, 1320.
17. Thölen, Th., Fröhlich, Th., Huber, F., Massini, M. A. *Dt. med. Wschr.* 1965, **90**, 1364.
18. Szetietowsk, P., Intner, M., Dohdakowicz, E. *Pol. Tyg. Lok.* 1969, **24**, 1782.
19. Skrabal, F., Dittrich, P. *Wien. klin. Wschr.* (in the press).
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would have been higher if only cases treated within 24 hours after ingestion had been included. Still, taking into account a mortality-rate between 30% and 50% from death-cap poisoning in undialysed patients,[21,22] hæmodialysis seems already to have passed its clinical trial as the treatment of choice. Although the number of cases is small the benefit of hæmodialysis already approaches statistical significance [19] ($\chi^2 = 3{\cdot}0$, $0{\cdot}05 < P < 0{\cdot}10$).

The main argument raised against the effectiveness of hæmodialysis [23]—the presumed early binding of α-amanitin to liver cells—is not considered when the action of penicillin, chloramphenicol, and phenylbutazone is discussed. These substances, given as late as 8 hours after ingestion of the poison, are believed to act by displacing α-amanitin from its plasma-albumin binding-sites, thus facilitating its renal excretion.[24] It might therefore be worth while combining hæmodialysis with these therapeutic agents, especially in cases where delay of treatment is inevitable.

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22. Buck, R. W. *New Engl. J. med.* 1961, **265**, 681.
23. Floersheim, G. L. *Sch. med. Wschr.* 1972, **102**, 901.
24. Floersheim, G. L., Schneeberger, J., Bucher, K. *Agents Actions*, 1971, **2**, 138.