

REDUCED LETHALITY IN MICE RECEIVING A COMBINED DOSE OF CYCLOPHOSPHAMIDE AND BUSULPHAN

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Summary.—Animals treated with a sufficiently high dose of busulphan die about 14 days later from bone marrow failure. A single, appropriately timed injection of cyclophosphamide can save these mice. The nature of this protection is shown to be the cyclophosphamide induced elaboration of a humoral factor which stimulates haemopoietic recovery.

THE USE of cytotoxic agents in cancer chemotherapy is often limited by the action of these agents on the normal mice. fetuin, a foetal protein, cause regeneration of the haemopoietic stem cells in irradiated mice.

Coulter counter and differentials performed lethal dose of busulphan as well as the

on ethanol fixed, Giemsa stained blood films cyclophosphamide improved dramatically
made at the time of sampling. A hundred when the cyclophosphamide was injected

TABLE Ib.—*Effect of Solenectomu on the Enhanced Survival of Animals**Given Cy (200 ma/ka) One Day Before a Lethal Dose of Bu (45 ma/ka)*

30-day survival after Cy (200 mg/kg) 30-day survival after Bu

Animals splenectomized

1 day before Bu (45 mg/kg)

alone (45 mg/kg)

5 months before treatment

3/5

60 %

0/5

0 %

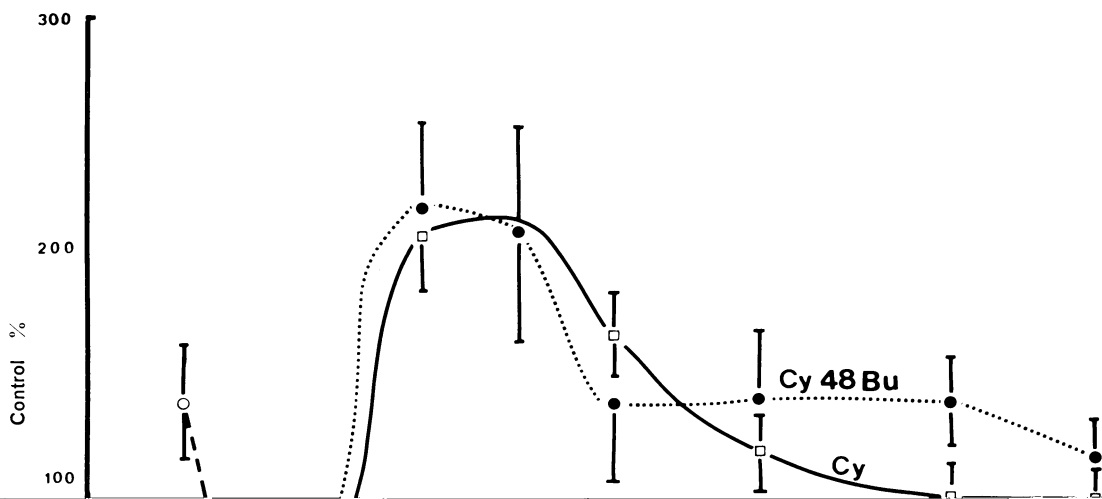


TABLE II.—*Effect of Serum from Cyclophosphamide Treated Animals on the 30-day**Survival of Animals Lethally Treated with Busulphan (40 mg/kg)*

Average granulocyte

given 1-2 days before the busulphan. However, progeny and the degree of stimulus to do

ever, there is still improved survival when so. This is borne out by the disparity

cyclophosphamide is given after the between CFU content of the femur and

busulphan, indicating that the improved actual survival of the animal after various
survival is not simply a result of the cytotoxic treatments seen by other

cyclophosphamide interfering with the workers (Hanks and Ainsworth, 1964:

action of busulphan. Smith *et al.*, 1966; Yuhas and Storer,

Cyclophosphamide has been shown to 1969; Dunn and Elson, 1970; Duniic and

enhance the regeneration of transplanted (Cuvelier, 1973), and this emphasizes the

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