α -fetoprotein concentrations of 20 nanograms per 100 cubic centimeters of blood or less can be found in normal adults by means of radioimmunoassay. In 1963, Abelev reported elevated serum concentrations of α -fetoprotein in adult mice with hepatoma, and a year later Tartarinov reported a similar observation in patients with hepatoma. The anomalous presence of α -fetoprotein in adults was thought to be diagnostic of hepatoma for some time thereafter, until reports confirming the early observations of Masopust and his colleagues began to appear: elevated serum α -fetoprotein concentrations were sometimes present in patients with certain gonadal tumors and even in patients with hepatitis. Patients with gastric carcinoma, especially when metastasis to the liver has occurred, may also have elevated α -fetoprotein concentrations. What then is the value of serum α -fetoprotein detection in the diagnosis of any of these conditions, particularly hepatoma, and does quantitation add to specificity in diagnosis? In a patient with gastric carcinoma that has metastasized to the liver, is the increased α -fetoprotein synthesis due to the original tumor, to the hepatic metastases, or to the distorted hepatic parenchyma surrounding the metastases? Can serum α -fetoprotein assays be used to follow the efficacy of tumor therapy? Can they be used to evaluate prognosis? This review is not a whodunit, but limited space compels referral of the reader to the book for the answers to these questions, although it is recognized that some of the papers will raise still more questions. For example, in one study reported, rats given chemical hepatocarcinogens by mouth often have increased α -fetoprotein synthesis during the first few weeks of treatment, but synthesis later decreases even if the carcinogenic agent is continued; in those rats that subsequently develop hepatomas, increased α -fetoprotein synthesis recurs. What is the relation then between hepatopathy and hepatoma in the production of α -fetoprotein? There does seem to be an increased association between hepatitis, cirrhosis, and hepatoma in countries, for example, Japan, and increased α -fetoprotein levels are seen in some patients with cirrhosis as well as in those with hepatoma. Do some types of hepatitis or cirrhosis predispose to hepatoma? Although the collection of 26 papers contained in this book were presented in December 1971, the data are timely. In fact,

some of the information presented can as yet be found nowhere else. In all, this combined international effort represents not only a fine summation of our knowledge of α -fetoprotein, but also a significant advance.

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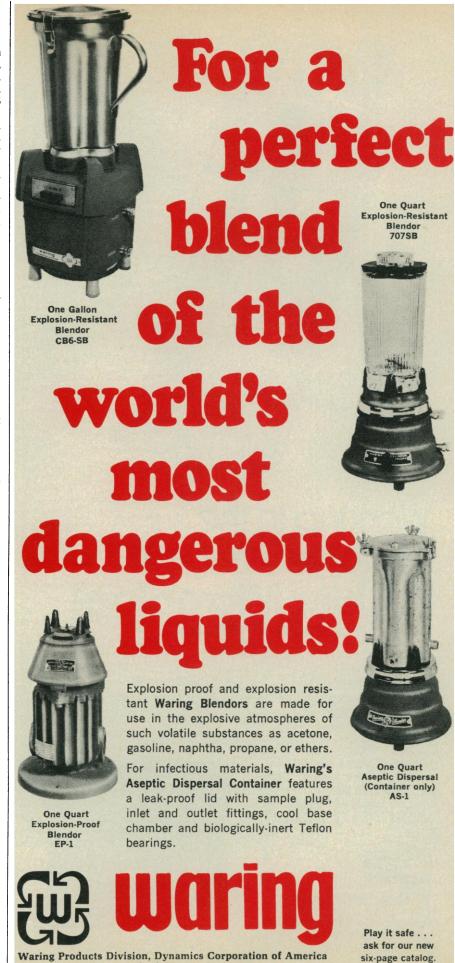
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