

variable for at least some cancer drugs — the transformation of drugs by the body before the drugs enter cancer cells and act on them. Still another drawback: Drug-sensitivity testing usually takes two to three weeks, and it is not always possible to wait for culture results before starting chemotherapy on a patient.

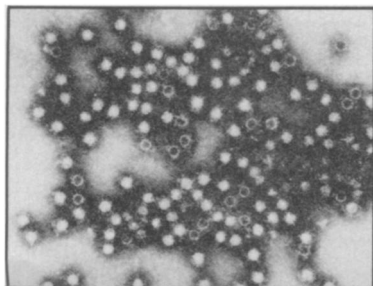
In spite of these and some other difficulties, however, the assay “represents a promising approach to the *in vitro* assessment of tumor behavior and response to therapy,” conclude Emil Frei III and Herbert Lazarus of the Sidney Farber Cancer Institute in Boston, in an editorial in the June 15 *NEW ENGLAND JOURNAL OF MEDICINE*. □

## Another hepatitis virus discovered

About 90 percent of all cases of hepatitis transmitted by blood or blood products are not caused by the hepatitis B virus, a known origin of blood-carried hepatitis. Nor are these cases triggered by the hepatitis A virus, which is spread by contaminated food. So might there be another, yet-to-be-discovered hepatitis virus that initiates these many cases? Yes, it seems so, according to a report in the June 16 *MORBIDITY AND MORTALITY WEEKLY REPORT*, published by the Center for Disease Control in Atlanta.

First, two patients who had received transfusions of a commercial blood plasma product came down with hepatitis. For both patients, blood tests ruled out acute infection with hepatitis A virus, hepatitis B virus or other causes. So CDC scientists took some of the blood plasma the patients had received and injected it into four chimpanzees. All four animals gave evidence of coming down with hepatitis. Plasma from these chimps was then injected into two others. They too got hepatitis. The CDC scientists then visualized, by immune electron microscopy, virus-like particles in plasma from one of these chimps (see accompanying photo). The particles are from neither hepatitis A nor hepatitis B viruses. Thus, CDC scientists believe the particles may be from the virus that causes most cases of blood-transmitted hepatitis.

If more tests show that this virus is really the cause of most blood hepatitis, then it should be possible to develop a screening test to keep the virus out of blood supplies. Such screening could markedly reduce the incidence of blood hepatitis, which is debilitating and sometimes fatal. □



Center for Disease Control

## Kepone — more news and it's mostly bad

What is the extent of kepone pollution and can it be removed? The Environmental Protection Agency completed a year-long study to determine just that, and it rings a grim toll for Virginia's James River fishing industry: Though methods exist to get rid of kepone, none is currently effective enough to make cleanup of the severe contamination in that river worthwhile. For Maryland fishermen the news is better; the highly toxic pesticide appears not to have entered the Chesapeake Bay except as carried in the bodies of migrating fish and shellfish.

Kepone was discharged in and around Hopewell, Va., by its manufacturers for ten years. Adverse health effects in employees forced the sole producer to close its plant in 1975. Subsequent findings of high levels of contamination in the adjacent James River closed much of it to fishing for a wide range of species.

Results of the more than 900 soil and sediment samples that EPA scientists studied indicate that kepone pollution is extensive. An estimated 20,000 to 38,000 pounds of kepone resides in just the top foot of James River sediments (data on whether the contamination goes much deeper are currently unavailable). Biodegradation is “insignificant,” EPA says, estimating that it may take many decades for the river to clean itself.

The soil samples indicate there may be as many as 1,000 pounds of residual kepone around Hopewell, another 3,000 pounds in the top four inches of an adjacent quarter-acre marsh, and 220 pounds in a kepone-sludge lagoon (which may be leaking into a nearby creek). Rainwater runoff is estimated to carry 1.8 pounds of kepone per day into local waterways under “low flow” conditions, up to 35 pounds per day during storms, the study says.

The estimated cost of dredging contaminated portions of the James is “in the billions.” But that's just dredging costs; if dredge spoils must also be treated, says EPA's Jim Kohler, costs will be higher. And dredging 200 square miles of the most turbid regions of the James could end up destroying many of the life forms in or near the sediment. “We don't have the technology in the United States to extract and remove toxic chemicals from river bottoms,” Kohler told *SCIENCE NEWS*. There were many “promising” technologies reviewed in this study, but most have never been tried outside the laboratory. The Japanese oozer dredge is an exception, but according to the Washington Post, no such dredge is working in the United States.

According to Gary Gardner in EPA's Philadelphia office, other pollutants — such as high levels of bacteria and toxic chemicals — “essentially closed” the James River to shellfish harvesting prior to

the finding of any kepone. For this reason, and because currently available cleanup techniques may do more harm than good, EPA recommends no comprehensive river cleanup attempts at this time.

What they do recommend, Kohler says, is that monitoring of kepone levels in fish, water and soil continue throughout the contaminated area and nearby Chesapeake Bay regions. And against the possibility that kepone may start moving toward the Chesapeake, an emergency removal regimen should be prepared. The agency also recommends that quick action be taken to remove and destroy concentrated sources of the pesticide in soil. □

## Light flashes from an X-ray burster

One of the main things astronomers always want to know about a given kind of radiation source is how far its spectrum extends over the range of possible electromagnetic wavelengths. Different ranges of the spectrum are monitored with very different kinds of equipment in different locations. If the objects in question are periodic or transient radiators, the process can involve precisely timed cooperative observations by various people in widely separated spaces. In the matter of looking for bursts of light that appear at the same time as the bursts of X-rays from X-ray burster sources, it involves space literally. The X-ray observatory is the SAS 3 satellite.

The cooperative observations are being arranged as a result of the first detection of light bursts coincident with X-ray bursts by the 150-centimeter telescope at the Cerro Tololo Inter-American Observatory in Chile on June 2. The source was MXB1735-44. Two optical bursts were recorded. There are no X-ray data for the time of the first burst, but SAS 3 recorded an X-ray burst coincident with the second. The discovery is reported by Jonathan Grindlay of the Harvard-Smithsonian Center for Astrophysics and J. McClintock, C. Canizares and J. van Paradijs of the Massachusetts Institute of Technology in *International Astronomical Union circular 3230* (June 15).

Theoretically the question of a mechanism that can produce simultaneous bursts of light and X-rays should produce some interesting suggestions. Experimentally the discovery means an invitation to astronomers to look for other instances. There are four known X-ray bursters that appear to have steady optical sources associated with them. The circular urges interested optical astronomers to arrange cooperative observations with SAS 3 to seek optical bursts from these. □