THE long awaited verdict on whether or not the artificial sweetener saccharin causes bladder cancers in rats may still be several years away. Last week, a committee of the National Academy of Sciences, which had been examining the evidence for two and a half years, said that there is not enough reliable data to state that saccharin is or is not a carcinogen. Consequently, the Food and Drug Administration (FDA) announced that it will do some more tests and continue to freeze consumption of the sweetener at 1972 levels.

The academy's report, which presents a detailed analysis of the history and chemistry of saccharin as well as a searching critique of the carcinogenicity tests, leads, however, to two disturbing conclusions. The first is that there has been a scandalous lack of study by the FDA of a chemical which is consumed by about 12 million people in the United States, at the rate of some five million pounds a year. And the second is that most of the saccharin produced in the United States is contaminated by an impurity, *o*-toluenesulphonamide (OTS), which could itself be a carcinogen. The latter possibility may not only have distorted carcinogenicity tests on saccharin, but it also raises the question of why the FDA has not taken steps to determine the biological significance of OTS and, if necessary, to ensure that the sweetener is manufactured in such a way that the impurity is kept out.

If OTS is, indeed, a carcinogen when fed to animals, the so-called Delaney amendment to the Food and Drug Laws would require that saccharin contaminated by OTS must be banned from the market. Saccharin is manufactured by two commercial processes, the most widely used of which produced OTS impurities at the level of several hundred parts per million, whereas the other results in contamination of only a few parts per million.

There have been two principal studies which raised fears that saccharin may cause bladder tumours in rats. One was carried out by the FDA itself and the other by the Wisconsin Alumni Research Foundation (WARF)—a laboratory supported by the sugar industry. Both studies revealed increases in the incidence of bladder tumours in rats fed saccharin at doses of 7.5% and 5% of the daily diet. The sweetener was administered to pregnant rats so that their offspring were exposed before birth, through the mother's milk and subsequently in their own diets.

The academy committee points out, however, that because the rats were also getting OTS "at very large dose levels", it is "impossible to say whether

saccharin itself was the carcinogen". The report also raises the question of whether bladder stones and parasites may have played a role in the formation of tumours. But, on the other hand, the academy report notes that most of the tests which have produced no evidence of carcinogenicity did not involve exposure to saccharin *in utero*. Therefore, they "cannot be interpreted as showing that saccharin is not a bladder tumorigen".

The FDA study and the WARF study were completed early in 1973,

Washington seen

by Colin Norman

but an FDA scientist acknowledged last week that the agency has sponsored no more tests since then, even though doubts have been raised about the role of OTS. The academy therefore recommends a series of studies to investigate the significance of impurities in commercial saccharin and the role of parasites and bladder stones in tumour formation, and epidemiologic studies to see whether there is any relation between cancer and long term consumption of saccharin in man. Dr. Julius Coon, of the Thomas Jefferson University in Philadelphia, who was the chairman of the academy committee, said last week that the tests could take about two years to complete.

● No action of Mr Nixon's upset the elders of science in the United States more universally than his decision to shift responsibility for formulating science advice from the White House to the bureaucratic hinterlands of the National Science Foundation. President Ford's announcement last month that he has set Vice-President Rockefeller the task of determining what arrangements should be made for getting science advice to the President was therefore greeted with considerable enthusiasm. But, with Rockefeller occupied in trying to determine the truth of allegations that the CIA indulged in domestic activities, the operation has taken something of a back seat. Henry Diamond, a lawyer connected with Mr Rockefeller's Critical Choices Commission in New York, has been given primary responsibility for the study and some announcement is expected

within the next month or so.

A number of groups, including the National Academy of Sciences and the US Senate, have publicly endorsed the view that a science policy apparatus should be re-established in the White House, and it seems likely that the Rockefeller study will recommend such a move. A key issue, however, will be the extent to which the mechanism will have influence over military research and development — when Nixon scrapped the old arrangement he specifically told the National Science Foundation to keep out of military affairs. And another central factor is how it will interact with the Office of Management and Budget. It is understood that those questions are now being debated among Rockefeller's advisers.

● A Boston physician went on trial last week faced with a manslaughter charge for allegedly killing a foetus during an abortion he performed last year. The trial has drawn considerable attention throughout the United States because it is likely to define in more precise terms when a foetus should be considered capable of surviving independently from its mother.

The physician, Dr Kenneth Edelin, was charged last year by a grand jury of aborting a foetus—described in the charge as a "baby boy"—which was believed to be between 24 and 28 weeks' old, and of failing to take steps to assure its survival.

When the Supreme Court handed down its historic decision on abortion two years ago, it ruled that state laws cannot forbid abortions before the foetus is 'viable', but it deliberately left fuzzy the definition of what constitutes viability. Its decision, in fact, is a model of obfuscation, since it states that viability "is usually placed at about seven months but may occur earlier, even at 24 weeks". The foetus that Edelin aborted is right in that uncertain period, and the trial is therefore likely to hang on the definition of viability.

But, aside from defining more precisely the scope of the Supreme Court's abortion decision, the trial could also have some implications for foetal research. There have, during the past year or so, been several state and national laws enacted which attempt to put a stop to research involving so-called living foetuses; but those laws have largely been passed in the absence of any definition of what constitutes a living foetus. They are generally regarded as greatly restricting some important areas of biomedical research.

The trial is expected to last for four or five weeks, and Edelin could face a lengthy prison term if found guilty.