

Baby David: Alive, well and waiting

Two-and-a-half years ago, an immune-deficient newborn was popped into a plastic isolator 30 seconds after birth. He has been there ever since, waiting for the right marrow transplant tissue that will correct his immune disease. Baby David, as he is called, has received worldwide publicity as the only immune-deficient baby to be put in an isolator at birth and to live so long under isolator conditions. In fact, only a handful of babies in some 10 centers around the world have had comparable experiences.

Baby David is not only alive and well in his plastic bubble, but amazingly well-adjusted psychologically and no longer germ-free, Raphael Wilson, his pediatrician from the Baylor College of Medicine, reported last week at the annual meeting of the American Society for Microbiology in Chicago.

The child's singular existence stems from Wilson's previous experience with immune diseases. During 1969 and 1970 he worked at the University of Ulm in Germany and had occasion to put twins with an immunodeficiency disease into a plastic isolator. He worked to free them of harmful germs and to prepare them for possible therapy. The children spontaneously recovered from their disease so therapy wasn't necessary. Then back at Baylor, Wilson diagnosed a five-month-old baby as immunodeficient. Since the baby's sister had the same histocompatible antigens—tissue proteins that must be matched if donor tissue is to be accepted by recipient tissue—Wilson transplanted marrow from her to the baby. But the transplant was too late; the boy died the next week from previously acquired infections. So the parents wanted to have another baby. Genetic counselors told them that they had a 50 percent chance of having a child who was normal immunologically. They decided it was worth the chance, especially since the next child, even if deficient, might be histocompatible with the sister. So they had another child. Wilson and his team were ready.

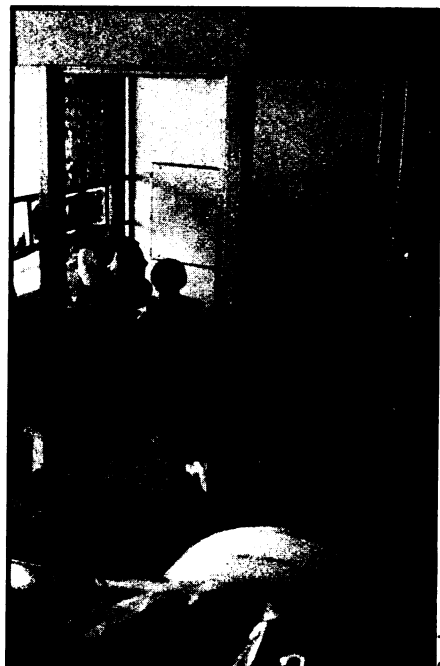
Baby David was born by cesarean delivery and immediately placed in a plastic isolator. He was tested to see whether he was immunologically competent; he was not. Nor was he histocompatible with his sister or with his parents. The challenge, then, was to raise him in his plastic bubble and to look for a donor whose bone marrow would match his type. The chances are 32,000 to one that the right donor will be found.

Meanwhile David is living a life that, while unique, is normal in many ways. He runs, plays, feeds himself and interacts socially with people out-

side the isolator. He spends half the week in the hospital and half the week at home. Both hospital staff and parents hug and cuddle him through long rubber gloves mounted in isolator walls. The plastic gives way so that he can be cradled in people's laps.

If anything, David is physically and psychologically advanced for his age. He takes intricate toys apart and puts together tough puzzles. His vocabulary is ahead of that for a three-year-old. He knows words that describe his special environment—cylinder, rectangle, parallelogram. Although food, clothing and toys are sterilized before being placed in the isolator, David has accidentally acquired 11 microorganisms in his intestinal tract, mouth, throat and nose. Actually Wilson and his colleagues are happy about this acquisition since the body depends on certain microbes for normal anatomical and physiological development. In fact they will soon deliberately introduce other nonpathogenic microorganisms into his environment.

Many people ask: Why was David allowed to be born? To which Wilson replies: Birth defects can be handled by methods other than abortion. Even though the chances of finding the right marrow donor for David are slim, the



Baylor
Baby David in his germ-free world.

chances are there. Also research in immunology is advancing rapidly and may well find the answer to David's problem during the next few years. And from a medical view, David offers a rare opportunity to better understand immunological diseases that are estimated to be a problem for one out of every 20,000 babies. □

Military rainmaking confirmed by U.S.

A controversy that began more than two years ago over reports that the U.S. Defense Department conducted a secret rainmaking program over Southeast Asia during the Vietnam war (SN: 4/15/72, p. 254; 7/15/72, p. 35) has now come to a conclusion—with the admission by the DoD that the reports were true.

The Subcommittee on Oceans and International Environment of the Senate Foreign Relations Committee last weekend released the report of closed hearings held March 20 in which Defense Department officials described a classified rainmaking program conducted in Southeast Asia from 1967 to 1972. Some 2,602 sorties were flown in which 47,409 units of lead or silver iodide were dropped to increase the normal monsoon rainfall and make difficult North Vietnamese infiltration. The goal was to soften road surfaces, cause landslides along roadways and to wash out river crossings.

The top secret program cost \$3.6 million a year for six years. The report prints eight maps showing the areas of Laos, Cambodia, North Vietnam and South Vietnam seeded and how the target areas changed from year to year. A total of 1,115 seedings units were

released over North Vietnam in 1967 and 1968. The DoD officials said all seeding operations within the boundaries of North Vietnam were terminated on Nov. 1, 1968, and never re-instituted. But seeding continued over Laos, Cambodia and South Vietnam through July 5, 1972.

The effectiveness of the seeding couldn't be precisely determined, but the Defense Intelligence Agency estimated "that rainfall was increased in limited areas up to 30 percent above that predicted for existing conditions."

The testimony from the DoD officials is official confirmation of the first known use of weather modification warfare.

"I believe the information made public today clearly demonstrates the need for a well-considered national policy in this area," Sen. Claiborne Pell (D-R.I.), chairman of the subcommittee, said this week. "My own view is that we should not open the Pandora's box of harnessing nature, of changing weather or developing techniques to create typhoons . . . with devastating effects upon foes and neutrals alike. I believe this new kind of weaponry should be eschewed by developed, so-called civilized nations." □