

traveled extensively and had visited all their hospitals. He had been shown the unusual cases but had seen no infants with phocomelia up to March 12, 1962. Further, they were certain that any and all such infants would be immediately evacuated to the United States. All evacuations passed through their office and no case of phocomelia had been reported. As of April 14, no such cases had been received from overseas at the Walter Reed Hospital in Washington, D.C. In a recent letter, Dr. Immon reported one infant born with phocomelia in a U.S. Army hospital. The infant's mother, who was a German, volunteered the information that she had taken Contergan in early pregnancy.

Alas, the incidence in England is also high. Reports are steadily appearing in the *Lancet* of the occurrence of phocomelia in infants born of women who have taken thalidomide in early pregnancy. Dr. Clifford Parsons (15) advised me that at a recent medical meeting almost everyone in the audience had seen at least one such case. The total incidence is expected to be in the hundreds but fortunately not in the thousands.

Reports are still coming in from all over the world which show that phocomelia has occurred where Contergan has been used. As of March 22, 7 cases were reported in Sweden in which Contergan had been purchased in Germany; 2 cases in Belgium and the Contergan was known to have been bought in Germany; 4 cases in Switzerland with a history of the ingestion of Contergan; 7 cases in Lebanon where the Portuguese preparation, Softenon, is available; 1 case in Israel and the mother took Distaval; 1 case in Peru and the father had obtained Contergan in Germany. Seven cases have been reported in Canada in women who had taken Kevadon in early pregnancy. One sad instance in the United States is that of a German woman who had married an American, and brought Contergan with her to the United States. She took the drug and has given birth to twins; one has phocomelia and the other duodenal atresia and a rectovaginal fistula. As yet, I have received no information of the incidence of phocomelia in Portugal. Dr. Lenz, however, has written me that he has learned of an outbreak of phocomelia in Brazil associated with thalidomide.

There are, however, still many perplexing problems. One concerns twins. Usually both twins are affected even when they are dizygotic but not always to the same extent, as in the above mentioned case. Another case is known in which one twin died at 5 months and was delivered at term with the living twin. The living twin had a phocomelia and the bones of the dead twin were normal.

I learned of a physician who had taken Contergan until she developed peripheral neuritis. Thereupon she stopped taking the drug until she was pregnant and then took it again through 2 successive pregnancies and both children were normal. The question arises as to how early in pregnancy did she take the drug, or is she one of the fortunate women?

Everyone admits that no information is available concerning how many women may have taken the drug in the sensitive period and have had a normal child.

Some doctors in Germany are still doubtful about the exact role of Contergan. Most doctors, however, believe that Contergan plays a major role. Dr. Pfeiffer remarked that most phenomena are more complicated than they seem and therefore he cannot believe that the cause of phocomelia is as simple as Contergan alone. Nevertheless, he, too, believes that Contergan plays a major role. Many English physicians believe there must be some other substance or factor which also causes phocomelia because a history of Distaval cannot be obtained in every case. No relation has been found between the amount of the drug ingested and the severity of the malformation. A single dose of 100 mg. is thought to be sufficient to cause severe phocomelia and repeated doses may give only a mild abnormality.

The only other drug with which I am familiar¹ which is similar to Contergan is glutethimide (Doriden). Although in a few instances, a history of glutethimide, not Contergan, has been obtained glutethimide has been widely used in Switzerland since 1955 and phocomelia was not known until 1961 and then only a few cases were seen and in most instances, a history of Contergan was obtained.

Little is known concerning the metabolism of thalidomide or how it is excreted from the body, nor the length of time the teratogenic factor persists in the body. Virtually all that is known is that it is insoluble in water and in fat.

¹ My attention has recently been called to 2 other drugs which contain radicles similar to thalidomide, namely, bemegride (Megimide) and chlorthalidone (Hygroton).