

## GENETIC DISORDERS OF THE JEWISH PEOPLE

BY ELISSA ALLERHAND

Over 100 genetic disorders are known to afflict the Jewish people, according to a new book entitled "Genetic Disorders among the Jewish People," by Richard M. Goodman, M.D., Professor of Human Genetics at Tel Aviv University's Sackler School of Medicine and the Chaim Sheba Medical Center published by the Johns Hopkins University Press. Most of these diseases are severe and affect the longevity of those afflicted, says Prof. Goodman.

This book, the first authoritative and comprehensive reference work on the clinical genetics of the Jewish people, offers a broad overview of the historical development and consequent heterogeneity of the Jewish people; of the genetic diseases known to afflict various Jewish ethnic groups (Ashkenazi, Sephardi, and Oriental); and of diagnosis, prevention and therapeutic approaches to the disorders.

Genetic diseases have existed for as long as man has existed, says Prof. Goodman. His book lists over 30 genetic disorders mentioned in the Bible and Talmud (not the same disorders known to be common among Jews today), some of which sources clearly recognized as family afflictions which could be transmitted by the mother and/or father. One example is the Talmudic ruling, apparently referring to classical hemophilia in a family whose sons died as a result of bleeding during circumcision. The talmud rules that if two sisters' sons die from bleeding due to circumcision, the third sister's son should not be circumcised. According to Prof. Goodman, the study of medicine was frequently included in the curriculum of Talmudic sages, and many had an extraordinary knowledge of anatomy and physiology.

Every individual carries 8 - 10 recessive genes capable of producing disease, and the combination of such like genes from two parents brings about the disorder of their offspring, explains Tel. Aviv University Prof. Goodman. One of the explanations put forth for the prevalence of Jewish genetic diseases is that Jews, for centuries, tended to marry their relatives or within a relatively small circle of Jews from a similar background thus drawing largely from the same gene pool, which tended to enhance the presence of such faulty genes.

There is a distinct difference between the diseases characteristic of Ashkenazi Jews and those of Sephardi Jews. These diseases tend to affect Jews of Eastern European origin irrespective of their specific country of origin. The diseases afflicting Oriental Jews, historically the oldest group and Sephardi Jews tend to be specific to the geographic origins of these communities and are not typical of the entire Oriental or Sephardi communities. I.e. Yemenite Jews have different genetic diseases than do Iraqi Jews, though both are considered to be of Oriental extraction.

Many of the genetic disorders afflicting Ashkenazi Jews involve the central nervous system. Three of the eleven found primarily in Ashkenazi Jews (Tay Sachs, Gauchers diseases, and Niemann - Pick) share a common metabolic pathway. Both Tay Sachs and Niemann - Pick disease involve a number of organ systems in the body including the central nervous system, and result in a gradual loss of bodily functions with death usually occurring early in childhood. Gaucher disease in Jews usually strikes young adults and affects the spleen, the liver, and the bones. Its symptoms

can be mild to severe. Familial dysautonomia, which is characterized by abnormalities of the autonomic, sensory and central nervous system may result in death during infancy, generally due to aspiration pneumonia.

Among the Sephardi diseases are ataxia-telangiectasia, which affects Moroccan children and generally results in invalidism by the age of 6 and often results in early death due to a high frequency of various forms of cancer; and Cystinosis, which affects Jews of North African origin, and is a renal tubular disease which results in growth retardation, rickets, progressive weakness and sometimes cardiovascular collapse which can lead to sudden death.

Knowledge of genetic disease among the Jewish people has grown rapidly in recent years as modern Israel has brought together large numbers of Jews from the three major ethnic groups in one large "genetic laboratory." While the world's approximately 14.5 million Jews are divided into about 82% Ashkenazis, 11% Sephardis, and 7% Orientals, Israel's population is more balanced, with about 47% Ashkenazis, 30% Sephardis, and 23% Orientals. The genetics of such complex disorders as coronary heart disease, diabetes, and cancer, can also be best studied under these comparative conditions.

What is the outlook for the future of genetic disorders that are specific to the Jewish people? As yet, there are no cures for genetic disorders, although encouraging research in treating specific symptoms is underway. The emphasis today is on prenatal diagnosis with selective abortion and genetic screening programs.

On the whole, current trends in marriage patterns strongly support a decline in the number of children to be afflicted with the genetic disorders common to Jews. Inter-marriage between the three Jewish ethnic groups tends to mix the gene pools, thus reducing the likelihood of these genetic diseases. The current trend of fewer marriages within the same family will further reduce the incidence of genetic disease. Smaller

family sizes also reduce the likelihood of afflicted children being born. Thus, the outlook on the whole, favors a decline in "Jewish" genetic diseases, but, warns Prof. Goodman, "Unfortunately, the problem will remain."

Concludes the book "The task of medical science will be to reduce the prevalence of genetic disease so that families who know the tragedy or who come to learn its fate will be encouraged by the hope that, some day, others will not have to suffer as they have suffered."

WASHINGTON (WNS) -- The Reagan Administration did nothing to stop the charges of dual loyalty and other "ugliness" that were used against American Jews for their opposition to the sale of AWACS radar planes and other sophisticated weaponry to Saudi Arabia, Sen. Carl Levin (D. Mich.) charged. As a result, "America's internal pluralism was damaged," he told members of the Jewish Institute for National Security Affairs at a dinner marking the end of a day long series of briefings at the Pentagon.

ST. LOUIS (WNS) -- Martin Citrin of Detroit has been elected president of the Council of Jewish Federations, it was reported here. His election came during the 50th annual CJF General Assembly where official delegates from CJF's member Federations chose the Detroit leader to head CJF during the historic period of Council's 50th anniversary.

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### U.N. TO DEBATE RED SEA CANAL PLAN

UNITED NATIONS (WNS) -- Israel expressed its objection over a decision by the UN General Committee, at the request of the Arab League, to include a new item on the General Assembly's agenda titled, "Israel's Decision to Build A Canal Linking the Mediterranean Sea to the Dead Sea."

Israeli Ambassador to the UN Yehuda Blum charged that it was "another demonstration of the total Arab obsession with Israel." The new item will come before the Assembly at the end of November after debate in the General Political Committee.

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