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# CD4 & CD8 expression in haemophilia & von willebrand disease

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Aim of the work1- Study the value of CD4 % & CD8 % as a prognostic indicator of cell mediated immunity.2- Determination of the risk factors of infection with Hepatitis C or HIV in patients with bleeding disorder.

**REVIEW OF LITERATURE**

**Definition:** Hemophilia, which is derived from the Greek roots haima (blood) and philein (to love), is a term that encompasses two congenital bleeding disorders. (Dunn & Thomas, 2004). Despite the inappropriateness of this description of excess bleeding, the word "hemophilia" continues to be used in patients with an inherited predisposition to blood loss. It is interesting that this inherited blood disease is not mentioned in early Egyptian, Roman and Greek medical literature (Owen, 2001). Haemophilia is an inherited bleeding disorder caused by deficiency of specific coagulation factors. Haemophilia A is caused by coagulation factor VIII (FVIII) deficiency, Haemophilia B by deficiency of coagulation factor IX (FIX), and Haemophilia C by deficiency of coagulation factor XI. These clotting factor deficiencies are caused by recessive mutations of the respective clotting factor genes (Mahangu & Gilham, 2008). Haemophilia may also be acquired, but this is a much rarer disease, with an incidence of 0.2 to 1.0 case per million per year.

- Acquired haemophilia more commonly affects elderly patients and is caused by autoantibodies to factor VIII (Franchini et al., 2005). After Von Willebrand's disease, hemophilia A and B are considered the commonest but also the most severe forms of congenital bleeding disorder, with FVIII deficiency being five times more prevalent than FIX deficiency. (Smith & Owen, 2006).

**REVIEW OF LITERATURE**

**Historical perspective:** The first documented account of an inherited bleeding disorder was in the 2nd century AD. The Babylonian Talmud describes the decision of Rabbi Juddah that the son of a woman whose three previous sons had bled to death following circumcision be excused from the rite (Rosner, 1969). The First Physician Who Described Hemophilia: The famous physician Al-Zahrawi – Albucasis (936-1013 AD), in the second Essay of his medical encyclopedia "Kitab al-Tasrif", described a disease which he named "خِلْفَانُ الدَّمِّ" or blood disease. His description corresponds with haemophilia. The first recent descriptions of haemophilia are from the end of the 18th century. In 1803, Dr. John Conrad Otto (1774-1844), an American physician, published an account about "a hemorrhagic disposition existing in certain families" in the "New York Medical Repository". (Kaadan & Angrini, 2009). The actual name 'hemophilia' was first recorded at the University of Zurich in 1828. Harvard doctors Patek and Taylor discovered the

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antihemophilic globulin in 1937, and a Buenos Aires doctor, Pavlosky, is credited with discovering hemophilia A and hemophilia B as triggers to more than one form of hemophilia. Hemophilia was known as the royal disease due to Queen Victoria being a carrier of it, and passing the gene to a number of nobles such as Alexei, son of the Russian Tsar Nikolai. (Paul, 2004). Several decades later, it was recognized that more than one form of hemophilia existed. The assumption that there were two forms of hemophilia was made in 1944 when plasma samples from two different persons, who REVIEW OF LITERATURE 6 presumably had the same diagnosis of hemophilia, were mixed together with normalization of the clotting times (Dunn & Thomas, 2004). The Royal Hemophilia: Haemophilia figured prominently in the history of European royalty in the 19th and 20th centuries. Queen Victoria, through two of her five daughters (Princess Alice and Princess Beatrice), passed the mutation to various royal houses across the continent, including the royal families of Spain, Germany and Russia. Victoria's son Leopold suffered from the disease. For this reason, haemophilia was once popularly called "the royal disease". The spread of hemophilia in the royal families of Europe was a very important factor in the development of medical knowledge about the disease. The physicians dived into the cases of hemophilia, trying to uncover its secrets, looking for the suitable remedy to enjoy the favor of the royal families. Figure (