DISCOVERY OF MEDIATORS OF SEPSIS

Septicemia, septic shock and consequent organ dysfunction is mediated by inflammatory molecules like cytokines, interleukins, tumor necrosis factor and lipid mediators. The discovery of lipid mediators of sepsis constituted by the cyclogenase and lipoxegenase metabolism of arachadonic acid to leukotrienes and prostaglandins along with thromboxanes was discovered by two Swedish chemists.

Sune Karl Bergstrom (January 10, 1916 – August 15, 2004) was a Swedish biochemist. He shared the Nobel Prize in Physiology or Medicine with Bengt L Samuelsson and John. R.Vane in 1982, for discoveries concerning prostaglandins and related substances which affect such functions as blood pressure and body temperature. Bergstrom was associated with the Karolinska Institute for much of his career, serving as president from 1969 to 1977. He also taught at the University of Lund, Sweden (1947 – 1958), was chairman of the Nobel Foundation’s board (1975 – 1987), and chaired the World Health Organisation’s advisory committee on medical research (1977 – 1982).

Bengt Ingemar Samuelsson (born May 21, 1934) is a Swedish biochemist. He was born in Halmstad in southwest Sweden and studied at Stockholm University, where he became a professor in 1967. He shared with Sune K.Bergstrom and John R.Vane the 1982 Nobel Prize for Physiology or Medicine for discoveries concerning prostaglandins and related substances. Discussing the role of prostaglandins in the body, Samuelsson explained, “it’s a control system for the cells that participates in many biological functions. There are endless possibilities of manipulating this system in drug development.”

His research interests were originally in cholesterol metabolism with importance to reaction mechanism. Following the structural work on prostaglandins along with Sune Bergstrom he has interest mainly in transformation products of arachidonic acid. This has directed to the identification of endoperoxidases,thromboxanes and the leukotrienes, and his group has chiefly been involved in studying the chemistry, biochemistry, and biology of these compounds and their function in biological control system. The research has implications in numerous clinical areas, especially in thrombosis, inflammation, and allergy.