

# Early Decades of Bacterial Endocarditis

By

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There is no mention of bacteria in relation to disease in any volume of Lancet prior to 1865, (Fostner, 1961).

Bacteria in blood was seen for the first time in 1849 by Davaine and Pollander, they studied the blood of anthrax infected cows. In 1869 Charles Bastain (cited by Morgan and Bland, 1959) studied the development of bacteria in blood. Dr. Salisbury in 1869 (cited by Morgan, & Bland 1959) correlated bacteria in blood to various forms of fever.

In 1952 Kirkes (cited by Morgan and Bland 1959) clearly attributed systemic emboli to vegetations on heart valves. By 1870 (cited by Morgan & Bland, 1969) Winge Heiburg 1872 (cited by Morgan and Bland 1969) visualized micro-organisms in valvular vegetations. Wikes in 1870 (cited by Morgan & Bland 1959) had associated arterial pyemia with endocarditis. Lancereaux, Leyden & Sacord in 1873 (cited by Morgan & Bland 1959) had each given clear clinical description of the disease. In 1886, Wyssokowitch (cited by Morgan & Bland, 1959) had isolated Staphylococcus aureus. In 1885 appeared the important contribution of William Osler (cited by Morgan & Bland 1957). He presented the Gulstonian lectures of 209 cases of malignant

endocarditis, he found the presence of micro organisms in the vegetations a constant feature of this disease. By the turn of the century the diagnostic technique of blood culture had come into use. Libmann (1912 cited by Morgan & Bland, 1959) is credited with having named the disease as subacute bacterial endocarditis.

Blummer in 1923 (cited by Morgan and Bland 1959) predicted that chemotherapy might in the future be developed to a degree permitting elimination of these organisms from the body. In 1935 Hammon and Reinhoff (cited by Morgan & Bland 1959) cured a case of S.A.B.E. by surgery, Touroff and Vessel did the same in 1940.

Brill and Libman in 1899, (cited by Waisburn, 1951) were among the first to call attention to blood stream invasion by Pseudomonas. In 1904 Eastman and Keene (cited by Waisburn, 1951) reported a case of Bacillus Pyocyaneus. Sepsis due to Escheriachia coli was reported by Jacob in 1909 and Fetty and Keefer in 1924 (cited by Waisburn, 1951).

Other reports in older literature with regards to *Escheriachia coli* sepsis were by Draper in 1910 (cited by Waisburn, 1951), Panton and Tidy 1913, Holzman in 1913 and Pope in 1921 (cited by Waisburn 1951). The report of Hoffman, Cuellman

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and Sayre in 1951 reviewed the 13 well documented cases of *Escherichia Coli* endocarditis in the literature. The increased incidence of bacteremia due to *Escherichia coli* in cirrhotic patients was noted by Hamet in 1894 (cited by Waisburn, 1951) and more recently Whipple and Scott in 1929 (cited by Waisburn 1951) both have pointed out the frequency with which bacteria enter the blood stream as result of urologic procedures. He made routine blood cultures on urologic patients, and in two years obtained 82 positive cultures.

In 1933 Fish, Hand and Kein (cited by Waisburn, 1951) summarized four cases of *Pseudomonas* endocarditis in the literature and added one of their own. Morgues and Anderson in 1943 also noted this tendency for *Pseudomonas* to cause blood vessel lesions. The review of Stanley in 1947 (cited by Waisburn, 1951) gives an excellent account of the modes of virulence of *Pseudomonas aeruginosa*.

A dearth of clinical reports of bacteria due to *Aero-bacter aerogenes* was found in literature. This is probably due to the fact that earlier authors included *Aerobacter aerogenes* in the *Coli* group. One such case was reported by Duncan and Co. workers in 1951.

The incidence of bacterial endocarditis as seen through the literature is given below:-

Date treated	Author	No. of cases of bacterial endocarditis
1902—1912	Libman (cited by Hall & Dowling, 1966)	86
1904—1926	Norrison (cited by Hall & Dowling, 1966)	126
Prior to 1927	Rothschild.	104

Prior to 1937	Keefer et al (1937)	54
1913—1939	Christian (1941)	174
1941—1956	Hill and Bayrd (1960)	273
1945—1949	Cates and Christic (cited by Hall and Dowling, 1966)	442
1946—1953	Newman et al 1954	52
1951—1957	Geraci (1958)	172
1952—1959	Feiedberg et al (1961)	95
1951—1961	Hall and Dowling, 1966	85

Unfortunately detailed information is missing from many more recent reports.

Infective endocarditis was listed as the admitting diagnosis in 0.16 to 5.4 patient per thousand hospital admission in United States. Gregoratos and Karliner, (1973).

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