

ANTIGENIC VARIATION OF *VIBRIO EL TOR* DURING AN EPIDEMIC IN KIVU

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Between June 2nd, and October 15th, 1978, we isolated 163 strains of *Vibrio cholerae* biotype el Tor, serotype Ogawa, from patients with diarrhea, healthy carriers and sewage in Kivu, Eastern Province of Zaire. Between October 16th, 1978, and December 11th, 1978, 23 strains of *Vibrio cholerae* biotype el Tor were isolated from patients; 2 strains were serotype Ogawa, 16 were Inaba and 5 Hikojima. The number of isolations was far below the real number of cholera-cases because it was impossible to perform stoolcultures in the field on all patients.

During the same period *V. cholerae* biotype el Tor serotype Inaba was isolated in Mayumbe, situated at the Atlantic Coast of Zaire. The possibility exists that Inaba serotype *V. cholerae* in Kivu were imported from Mayumbe. However, the occurrence of both serotypes Hikojima and Inaba in Kivu is more probably due to antigenic variation of the Ogawa serotype. A simultaneous isolation of the three serotypes also points out to antigenic variation.

Biochemical parameters and sensitivity to antibiotics showed no difference between the Inaba-strains from Mayumbe and the Ogawa-, Hikojima- and Inaba-strains from Kivu.

Spontaneous changing of serotypes has been previously described for classical and el Tor *V. cholerae*. Inaba serotypes were obtained *in vitro* from Ogawa serotypes by the addition of Ogawa antiserum to the cultures, but not the reverse (Kabeshima, 1918; Shrivastava and Bruce White, 1947; Bhaskaran and Gorrill, 1957). Inaba strains were isolated from germ-free mice inoculated with an Ogawa-strain (Sack and Miller, 1969).

The conversion of serotype Ogawa to serotype Inaba and vice versa in the human gut has been described (Sen Gupta, 1951; Gilmour, 1952; Sinha *et al.*, 1967; Sheehy *et al.*, 1966; Gangarosa *et al.*, 1967; Sinha *et al.*, 1968; Cvjetanovic & Barua, 1972).

During a cholera epidemic in Guam and a survey in Calcutta both serotypes Ogawa and Inaba were isolated from sewage (Merson *et al.*, 1977; Sinha *et al.*, 1968).

It is supposed that during the cholera epidemic in Kivu a serotype change occurred of *Vibrio cholerae* biotype el Tor.

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