

# **DIFFERENTIATION OF *PROTEUS MIRABILIS* AND *PROTEUS VULGARIS* STRAINS BY MEANS OF PROTICINE TYPING: A LONGITUDINAL EPIDEMIOLOGICAL STUDY**

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## **SUMMARY**

In the years 1979, 1980, 1982-83, 1986-87 and 1992-93, 673 strains of *P. mirabilis* and 25 strains of *P. vulgaris* were isolated from the urinary tracts of patients at a Teaching Hospital in Brno. In 1982-1983 and 1992-93, 335 strains of *P. mirabilis* and 2 strains of *P. vulgaris* were isolated from the urine and faeces of two groups of Brno population and used as controls. Using the P/S typing method, 94.7 % of hospital isolates and 85.5 % of control strains could be differentiated by their types. The strains that could not be typed (8.2 %) were classified as PO/SO or N types; in the remaining strains, 182 various P/S types could be distinguished. The strains that could not be typed occurred more frequently in control groups (48 out of 337) than in hospital isolates (37 out of 698).

Over the whole period, P5/S6, S7, S9 and P1/S2, S11 were the prevailing P/S types of hospital isolates and were placed, together with related types, in groups P5 and P1, respectively. In 1982-83, a significant shift ( $p < 0.01$ ) from the initially prevailing P5/S6, S7, S9 type to the P1/S2, S11 type of *P. mirabilis* was recorded.

Approximately one third of the hospital isolates in all the periods examined was found to be sporadic, with the exception of 1992-93 when the sporadic strains doubled in frequency ( $p < 0.01$ ). In control strains, the frequency of sporadic types was twice that of the hospital isolates ( $p < 0.01$ ) in 1982-83 and, in 1992-93, it was equal to the frequency of hospital isolates. This implied a fall in the presence of hospital-acquired strains in the last period of study.

**Key words:** urinary tract infection (UTI), *P. mirabilis*, *P. vulgaris*, proticine production and proticine sensitivity (P/S) typing, nosocomial infections

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