EXCESSIVE DIURESIS DUE TO COLIMYCIN? (237)

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Background: Gram-negative bacteria, mainly Pseudomonas aeruginosa and Acinetobacter baumannii, are among the most common causes of infections in burn patients. From the 1950s, colistin was used to treat these infections but was abandoned in the 1980s due to nephrotoxicity but it is today reused because of increasing resistance to antibiotics. At the Burn Centre (Brännskadecentrum) in Uppsala, polyuria was noticed in some burn patients treated with colistin. Polyuria has not been described as a side effect in the literature. The purpose of this study was to investigate the reasons for seen polyuria.

Material and methods: The medical records of all patients admitted to Brännskadecentrum from May 2011 to Mars 2014 with a length of stay more than thirty days and with colistin treatment were reviewed. Data regarding diuresis, colistin dosage and other concomitant antibiotics, dialysis, fluids, creatinine, GFR, positive bacteria culture and journal entries stating infections and kidney function were collected. The mean and median of daily diuresis were calculated.

Results: Eight patients had been treated with colistin. Incidentally patients #1 -5 were men, #6 - 8 women. Patient #5 had severe kidney failure at admission and was excluded. Mean daily diuresis was 6491 ml (median 5088 ml, range 4112-8073 ml) for pts #1 - 4 and 1884 ml (median 1865 ml, range 1711-2010 ml) for pts #6 - 8.

Discussion: All patients were treated with approximately the same dose of colistin along with aminoglycosides (which rarely cause polyuria). In contrast to many other studies, no nephrotoxicity could be noted in direct association with the colistin treatment in this small group of patients.

The four men had unexpectedly high diuresis and all of them were treated with a non-licensed colistin preparation, Colimycin, whereas the other patients were treated with the licensed, Tadim. The common denominators for excessive diuresis, in this small study, appear to be male gender and Colimycin.

We cannot ensure the actual underlying cause, but since the result is remarkable, it has been reported to the Swedish Medical Product Agency.