

infection or colonization rate of the urinary tract are desirable. The indiscriminate treatment of the colonization of the urinary tract with systemic antibiotics is not recommended, since the colonization is not the only cause of urolithiasis

Summary

Objectives

1. - To identify inductive risk factors of urolithiasis in a population with severe disability of neurological origin by :
 - a. Analyzing bacterial flora detected in urine of this population and comparing the results with the urine cultures from a subpopulation with know diagnosis of urolithiasis.
 - b. Identifying, if they exist, one or more prevalent bacteria in urine from population diagnosed of urolithiasis in order to raise an alternative to the international consensus in force.
 - c. Evaluating the different urinary drainage systems.
2. To establish clinical profiles with greater risk of urolithiasis in this population.
3. To suggest clinical recommendations to reduce the impact of urolithiasis in people with severe disability of neurological origin.

Materials and Methods

Analysis variables (urine cultures, urinary drainage systems, injury level, age ...) from different subjects with severe disability from neurological origin followed in Institut Guttmann of Barcelona between January of 1995 and December of 2000.

Statistical analysis

A description of all the variables registered by means of frequency allocation has been made if they were categorical and by means of some measurement of central tendency and dispersion if they were quantitative. The cups of incidence of urolithiasis in the studied factors were calculated. The factors associated to the risk of urolithiasis have been evaluated conditioned by injury level. Exclusively in patients diagnosed of litiasis, a special analysis has been made to evaluate the factors with influence on the time from injury to the diagnosis of urolithiasis.

Results

A total of 374 subjects followed at the Institut Guttmann of Barcelona were retrospectively analyzed: 165 patients diagnosed of urolithiasis and 209 as controls with similar injury level and age. 1297 bacterial isolations were obtained. Univariant analysis: Not statistical significance risk was obtained for sex or injury level (brain injury or spinal cord injury, complete or incomplete). An increase of relative risk was found for age (conditioned by injury level) and for injury with greater risk for brain injury patients. The factors associated to time between injury and the diagnoses of urolithiasis are: Type of injury, level of injury and the age of the patient. The median of time to diagnosis of urolithiasis is 94.5 months for spinal cord injury patients and 50.8 months for brain injury patients. The age at the moment of injury marks a positive correlation to urolithiasis as greater as younger is the patient.

Conclusions

A prevalent germ related to urolithiasis with statistical significance was not detected. There're three germs that are especially relevant: E. coli, Pseudomona and Proteus. The invasive urinary drainage systems are clearly inductive of urolithiasis genesis. Some clinical profiles with greater risk can be delimited: Male, incomplete injury, invasive urinary drainage and colonization by Staphylococci or Proteus for young patients and same characteristics with colonization by Pseudomona or E. coli for aged patients. This allows to define two profile types with greater risk of urolithiasis in subjects with severe disability from neurological origin. The urolithiasis is a pathology from multifactorial origin and we don't know all the incident factors and the relative burden of each one of them. In patients with severe disability from neurological origin, infection-colonization factor seems to have a positive roll to generate urolithiasis. Especially when disabled patients needs invasive maneuvers to drain its bladder to prevent other complications. Therefore, all directed performances made to reduce the