URINARY TRACT INFECTIONS IN INFANTS UNDER 90 DAYS OLD. PATIENTS WITH LOW RISK OF BACTEREMIA.

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Background

Clinical guidelines recommend inpatient treatment of febrile infants less than 90 days old diagnosed with urinary tract infection (UTI) due to the risk of adverse events, mainly bacteremia.

Objective

To determine whether the risk of complications, mainly bacteremia, associated with UTIs in febrile infants less than 90 days old is different in those patients with one or more risk factors compared to those without any risk factors

Patients and methods

Prospective multicentric study carried out in 17 Spanish Paediatric Emergency Departments members of the RISEUP-SPERG (Spanish Pediatric Emergency Research Group), including febrile infants less than three months old diagnosed with UTI between October-2011 and September-2012. UTI was defined as the growth of more than 50000 CFU/ml of a single pathogen in an urine culture, or the growth of more than 10000 CFU/ml if the urinalysis showed leukocyturia and/or nitrituria. It was considered a complication of the UTI the development of bacteremia (with or without associated sepsis) or meningitis by the same bacterium isolated in the urine culture, need for admission in an intensive care unit or exitus.

Results

A total of 1,827 infants were included. After exclusion criteria, 1,522 (83.3%) were analyzed, being 280 (18.45 %) diagnosed with UTI. 13 (4.64%) of them developed complications.

When a multivarient analysis was made with the 234 patients in whom a blood procalcitonin was determined, the only risk factors for complicated UTI with statistical significance were the represented in table 1.

Table 1

RISK FACTOR	OR	CI 95%	p
Age less 28 days	31.9	3.3-306.0	0.003
Not-well appearing	7.7	1.2-98.0	0.029
PCT > 0.6 ng/mL	16.9	1.7-166.7	0.015

If the sample is divided into two groups, the one including patients with one or more risk factors, and the other including those without any risk factor, we found the following results:

	UTI	COMPLICATED UTI	
RF +	136	11	147
RF -	87	0	87
	223	11	

This predictive model showed a sensitivity of 100% (CI95% 71.1-100), with a specificity of 39.1 (CI95% 32.8-45-5) and a negative predictive value of 100% (CI95% 95.7-100)

Conclusions

Well appearing infants between 28 and 90 days of age diagnosed with febrile UTI , and with blood procalcitonin less than 0.6 ng/ml showed a very low risk for complications and may be suitable for outpatient management.