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MICROBIOLOGICAL ASPECTS OF YERSINIA ENTEROCOLITICA INFECTION – CASE REPORT

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ABSTRACT

Microbiological aspects of *Yersinia enterocolitica* septicemia in child with ß- thalassemia are reported. Blood culture in soybean – casein broth was positive for *Yersinia enterocolitica* after 24 hours. Phosphate – buffered saline at 4° C was used to detect the microorganism from stools. Positive result was obtained after 20 days.

Key words: Yersinia enterocolitica , septicemia, stools

INTRODUCTION

Yersinia enterocolitica are Gram-negative bacteria belonging to the family *Enterobacteriaceae.* They are psychrophilic and slow-growing organisms with varying degrees of pathogenicity in various bio-and serovars. They are isolated rare from pathological materials, commonly stools and blood. The investigation of faeces needs targeted search for *Yersinia enterocolitica* and prolonged incubation. *Yersinia enterocolitica* is causative agent of enterocolitis and extraintestinal infections - most commonly mesenteric lymphadenitis and septicemia. Predisposing factors for septicemia are diabetes, cirrhosis, hyperthyroidism, severe anemia (3, 4).

PRESENTATION OF CASE

We present the microbiological diagnosis of one case of *Yersinia enterocolitica* septicemia in a child with β-thalassemia. It is about a girl of 6 years I.D.P. treated in January 2012. Blood culture, urine and faeces were examined.

Blood culture in soybean-casein broth was positive after 24 hours.*Yersinia enterocolitica* was isolated on blood agar and McConkey agar. Identification was performed by routine methods- Gram stain and biochemical tests (5, 6). Temperature-dependent features were tested at 37 ° C and 22 ° C. Identification was confirmed by Crystal Enteric / Non fermenter (BBL-BD). Biotyping by H. Bercovier (1) was performed. The isolate belonged to the first biotype.

The susceptibility of the microorganism to antibiotics was determined according to CLSI (2). Yersinia enterocolitica showed sensitivity to the following antibiotics: piperacillin, ceftazidime, cefotaxime, cefepime, meropenem, imipenem, cefoperazone/ sulbactam, piperacillin / tazobactam, amikacin, gentamicin, trimethoprim / sulfamethoxazole and ciprofloxacin. The strain was resistant to: ampicillin and cefazolin, due to innate resistance to aminopenicilins and first generation cephalosporins.

Faecal sample was focused on testing for *Yersinia enterocolitica*. McConkey, eosin-methylene blue and desoxycholate agars were used for primary isolation.Phosphate-buffered saline for enrichment at 4 ° C in a refrigerator also was used. Direct cultures showed no growth of *Yersinia enterocolitica*. Phosphate-buffered saline was cultured each week on McConkey agar. *Yersinia enterocolitica* was isolated after 20 days. The identification of the isolate was performed by the same methods. Biotyping and antibiograms of the two isolates

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were identical.Urine culture showed no growth.

CONCLUSION

Routine microbiological methods for testing blood cultures are good enough for isolation of *Yersinia enterocolitica*. In the examination of faeces for a positive result, it is necessary implementation of enrichment at 4 ° C in phosphate-buffered saline and prolonged incubation of the samples.

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