Two Unusual Occurrences of Trichomoniasis: Rapid Species Identification by PCR

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PCR analysis in two unusual occurrences of trichomoniasis, trichomonal empyema due to Trichomonas tenax and Trichomonas vaginalis in an infant urine sample, allowed us to obtain rapid and accurate trichomonad species identification. The weak sensitivity of wet preparations and the low viability of the flagellates can be remedied by the PCR method.

CASE REPORTS

Case 1. A 3-month-old girl was brought to the hospital by her parents because of aggravated respiratory distress and difficulty in eating. Physical examination revealed fever (38°C), mild inflammatory syndrome (C-reactive protein, 22 mg/liter), diffuse sibilants, and congestion. A chest radiograph revealed thoracic distension. Urine and stool samples were sent to the laboratory. Whereas the stool analysis was negative, the urine analysis was positive for Trichomonas vaginalis twice (Fig. 1). PCR analysis was carried out on urine, stool, and saliva. The urine sample was found positive for T. vaginalis. Genital examination of the infant revealed no abnormalities: absence of erythema, indurations, or skin breakdown of the labia or perineal area. The child was successfully treated with metronidazole (30 mg/kg of body weight/day) for 3 days. The respiratory distress was managed with salbutamol aerosol, respiratory physiotherapy, and rhinopharyngeal disinfection. To explore the source of the contamination, the mother underwent a vaginal examination in a private laboratory, which was negative for T. vaginalis.

Case 2. A 33-year-old woman was admitted to the intensive cardiac surgical care unit for urgent cardiac transplantation. On day 9 (D9) postgraft, the patient became dyspneic and a chest radiograph showed a pneumothorax of the right lung. Although the chest radiograph was normal on day 8, physical examination revealed fever (38°C), difficulty in eating. Physical examination revealed fever (38°C), mild inflammatory syndrome (C-reactive protein, 22 mg/liter), diffuse sibilants, and congestion. A chest radiograph revealed thoracic distension. Urine and stool samples were sent to the laboratory. Whereas the stool analysis was negative, the urine analysis was positive for Trichomonas vaginalis twice (Fig. 1). PCR analysis was carried out on urine, stool, and saliva. The urine sample was found positive for T. vaginalis. Genital examination of the infant revealed no abnormalities: absence of erythema, indurations, or skin breakdown of the labia or perineal area. The child was successfully treated with metronidazole (30 mg/kg of body weight/day) for 3 days. The respiratory distress was managed with salbutamol aerosol, respiratory physiotherapy, and rhinopharyngeal disinfection. To explore the source of the contamination, the mother underwent a vaginal examination in a private laboratory, which was negative for T. vaginalis.

Contribution of PCR analysis to diagnosis of trichomoniasis. A diagnosis of trichomoniasis may be missed even by experienced biologists. Although precise morphological identification guides for trichomonads are available, the parasite is able to take amoeboid forms (4), and sometimes its internal structures are not visible (6). The main explanations for undiagnosed trichomoniasis are delayed transport, storage at 4°C, and freezing, which lead to lysis or loss of motility of the parasites. A recent study investigating the viability of T.
vaginalis concluded that a delay between collection and analysis of longer than 30 min could lead to false-negative results (12).

Neonates are generally infected vertically by T. vaginalis from the genitourinary tract at the time of delivery or by the premature rupture of fetal membranes (1), but the vaginal alkalization that occurs at 6 weeks of age might naturally eradicate the flagellates (2). Since T. vaginalis is recognized as the most prevalent nonviral sexually transmitted infection worldwide (11), its detection in an infant remains an uncomfortable situation. Indeed, the discovery of a sexually transmitted organism in children can be the first indication of sexual abuse. In our case, no argument in favor of sexual abuse was found after investigation. The wet mount preparation carried out on the vaginal sample of the mother in a private laboratory was positive by one or more methods (8). Species other than T. vaginalis, regarded as an intestinal commensal, was identified in a purulent pleural fluid (7) and T. vaginalis, generally common in the genitourinary tract, was recently reported in a neonatal respiratory infection (1).

Conclusion. PCR processes provide rapid and reliable identification of trichomonal species and avoid undiagnosed trichomoniasis related to a delayed analysis of the sample. Updating the prevalence of the different trichomonal species could also be provided by a systematic use of molecular biology to investigate trichomoniasis.

REFERENCES


