



Trypanosoma cruzi and hematospermia

Marcos Lima de Oliveira Leal¹ · Felipe da Silva Pereira¹ · Ayla Wiana Reis Queiroz¹ · Nara Djane Barbosa¹ · Marta Almeida dos Santos² · Daniel Abensur Athanazio^{1,2}

Received: 23 August 2019 / Accepted: 4 September 2019 / Published online: 18 September 2019
© Springer Nature B.V. 2019

Editor,

Hemospermia in young patients may be caused by parasites. Among them, schistosomal infection is the most common etiology. The presence of protozoans *Toxoplasma gondii* and *Trypanosoma cruzi* in semen has been reported, without reported clinical manifestations [1]. For *T. cruzi*, there is experimental evidence that infected semen can transmit the disease in susceptible hosts [2].

We report the case of a 36-year-old patient who sought the urologist due to hematospermia for 2 months. No other urinary symptoms were reported. There were no previous relevant medical conditions. The physical examination was normal. Computed tomography imaging showed irregular swelling of the left seminal vesicle associated with unspecific calcifications. At cystoscopy, the left side of the bladder fundus showed extrinsic compression. The differential diagnosis included benign tumor or inflammatory etiology, both with indication of surgical removal due to persistent symptoms. By the time of surgery, the patient

complained of hematospermia for 4 months. Laparoscopic left vesiculectomy was performed. At microscopy, there was edema and numerous parasitic microcysts in muscle fibers reminiscent of *T. cruzi* (amastigote forms). These organisms were highlighted by Giemsa and periodic acid–Schiff stains. Immunohistochemistry using *T. cruzi* antibody (polyclonal, FIOCRUZ-BA) was positive in all microcysts. Serologic investigation was performed with non-reagent tests both by chemiluminescent microparticle immunoassay and ELISA IgG. After 11 months of follow-up, the patient remains asymptomatic.

The presence of *T. cruzi* in male genital organs is described in experimental models and may be common in patients during acute infection [4–6]. This is, to the best of our knowledge, the first report of acute genitourinary symptoms caused by *T. cruzi* in male genital organs. In selected regions of world, a parasitic etiology for hematospermia in young patients should be considered—even in the absence of positive serology (Fig. 1).

✉ Daniel Abensur Athanazio
daa@ufba.br

¹ Hospital Universitário Professor Edgard Santos/Federal University of Bahia, Rua Dr. Augusto Viana, S/n-Canela, Salvador, BA 40110-060, Brazil

² Imagepat, Laboratory of Pathology, Rua Lucaia, 209-Edf. Eventus Empresarial, Rio Vermelho, Salvador, BA 41940-660, Brazil

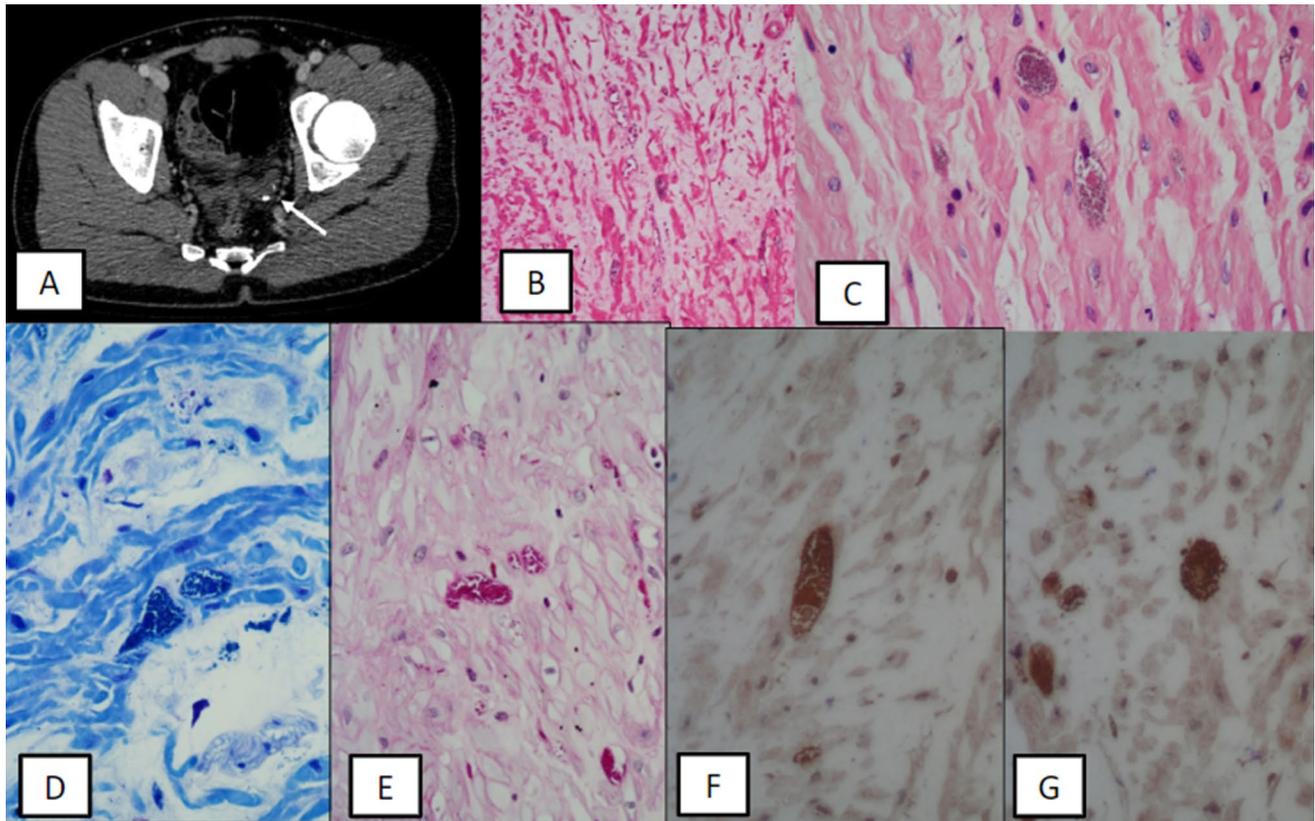


Fig. 1 **a** Computed tomography imaging shows irregular swelling and unspecific calcifications; **b** HE stain ($\times 100$ and $\times 400$); **c** Giemsa stain, $\times 400$; **d** periodic acid–Schiff stain $\times 400$; and **e, f** immunohistochemistry anti-*T. cruzi* (polyclonal) $\times 400$

References

1. Crespillo-Andujar C, Díaz-Menéndez M, Mora-Rillo M (2018) Evidence for previously unidentified sexual transmission of protozoan parasites. *Emerg Infect Dis* 24(3):602–603
2. Araujo PF, Almeida AB, Pimentel CF et al (2017) Transmissão sexual da tripanossomíase americana em humanos: uma nova potencial rota pandêmica para os parasitas chagásicos. *Mem Inst Oswaldo Cruz* 112(6):437–446
3. Carine-Santos M, Santos VM, Lima MA et al (2003) Genitourinary changes in hamsters infected and reinfected with *Trypanosoma cruzi*. *Mem Inst Oswaldo Cruz* 98(4):523–528
4. Araujo PF, Almeida AB, Pimentel CF et al (2017) Transmissão sexual da tripanossomíase americana em humanos: uma nova potencial rota pandêmica para os parasitas chagásicos. *Mem Inst Oswaldo Cruz* 112(6):437–446
5. Martínez-García F, Regadera J, Mayer R, Sanchez S, Nistal M (1996) Protozoan infections in the male genital tract. *J Urol* 156(2 Pt 1):340–349
6. Vianna G (1911) Contribuição para o estudo da anatomia patológica da moléstia de Carlos Chagas. *Mem Inst Oswaldo Cruz* 3:276–294

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.