

# *Streptococcus agalactie* involved in the etiology of Sexually Transmitted Diseases \*

## *Streptococcus agalactie* como agente etiológico de Doença Sexualmente Transmissível

Marcos Noronha Frey<sup>1</sup>  
Ana Elisa Empinotti Ioppi<sup>2</sup>

Renan Rangel Bonamigo<sup>3</sup>  
Guilherme Pinheiro Prado<sup>4</sup>

**Abstract:** *Streptococcus agalactiae* is an important microorganism involved in a number of conditions in pregnant women, newborns, elderly people (over 65 years of age) and individuals with chronic disabling illnesses. This pathogen is infrequently found among patients outside this age range or clinical profile (1-5) and is rarely reported in the etiology of sexually transmitted diseases. Here we describe a case of an otherwise healthy 19 year-old male, who presented with ulcerative genital and oral lesions in association with urethral and ocular discharge, suggestive of *Streptococcus agalactiae* infection acquired through sexual contact.

**Keywords:** Oral ulcer; Sexually transmitted diseases; Skin ulcer; *Streptococcus agalactiae*; Urethritis

**Resumo:** O *Streptococcus agalactie* é um importante micro-organismo causador de doenças em gestantes, neonatos, idosos (maiores de 65 anos de idade), e portadores de doenças crônicas debilitantes, sendo um patógeno incomum em pacientes que não se enquadrem nestas faixas etárias ou perfil clínico (1-5), e, raramente, é descrito como agente causador de doenças sexualmente transmissíveis. Descrevemos o caso de um adulto jovem hígido de 19 anos, apresentando lesões ulceradas genitais e oral, assim como corrimento uretral e ocular, sugestivas de terem sido causadas pelo *Streptococcus agalactie*, e adquiridas através do contato sexual (doenças sexualmente transmissíveis).

**Palavras-chave:** Doenças sexualmente transmissíveis; *Streptococcus agalactiae*; Uretrite; Úlcera cutânea; Úlceras orais

### INTRODUCTION

The only representative of group B streptococcus (GBS), the *Streptococcus agalactie*, is an important microorganism that causes diseases in pregnant women, neonates, the elderly (older than 65 years of age), and carriers of debilitating chronic diseases; it is an uncommon pathogen outside of these age groups or clinical profile.<sup>1-6</sup> The present study describes the case of a healthy young man with lesions on the genitals and in the oral cavity, probably transmitted by sexual contact, caused by GBS.

### CASE REPORT

A 19-year-old male patient presented with complaints of generalized malaise, dysuria, diffuse myalgia, arthralgia (affecting mainly the finger, hand and wrist articulations) as well as painful lesions on the penis, that appeared 5 days after unprotected sexual contact (vaginal intercourse and oral sex) with an unknown partner. Concomitantly with the onset of genital lesions, he noticed a painful lesion in the oral cavity. The physical examination revealed several ulcerative lesions, with 2-3 mm diameter, shallow and

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<sup>1</sup> Dermatologist. Medical degree awarded by the *Fundação Faculdade Federal de Ciências da Saúde de Porto Alegre*. Porto Alegre, RS, Brazil.

<sup>2</sup> Physician undergoing specialization training in dermatology. *Universidade Federal de Ciências da Saúde de Porto Alegre*. Porto Alegre, RS, Brazil

<sup>3</sup> PhD in Medical Sciences awarded by the Federal University of Rio Grande do Sul (*Universidade Federal do Rio Grande do Sul*). Professor of dermatology and professor of the postgraduate program in pathology, *Universidade Federal de Ciências da Saúde de Porto Alegre*. Head, department of dermatology, *Universidade Federal de Ciências da Saúde de Porto Alegre*. Porto Alegre, RS, Brazil

<sup>4</sup> Medical student, *Universidade Federal de Ciências da Saúde de Porto Alegre*. Porto Alegre, RS, Brazil..

exudative (a fetid yellow-green secretion), located on the glans, the foreskin and pubis, close to the penis, associated with small mobile painful adenomegaly in the bilateral inguinal region (Figure 1). The urethral examination showed moderate meatal erythema (without edema), with urethral drainage of thick and scarce greenish secretion. The oral cavity examination revealed a single ulcerative lesion, shallow, with 1 cm diameter, located posteriorly to the last right molar, with the presence of exudative thick yellow-green material, very painful to the touch (Figure 2). The articular examination did not show signs of fever, but only slight local pain on palpation. Laboratory exams of serum, urine and secretions of mucous-cutaneous and urethral ulcers (swabs) were carried out, with the following results: the hemogram was within normal values, the urine sediment presented hemoglobin 2 ++ and leukocytes 9-10 cells/field, urine culture negative, VDRL and serology for Syphilis IgM and IgG (ELISA) were non-reactive, anti-HIV nonreactive and serology for Chlamydia trachomatis IgM was non-reactive. Previously to the bacteriological results, in view of the genital ulcers and urethral drainage, the patient was empirically treated with oral azithromycin 1g associated with a single dose of intramuscular ceftriaxone 250mg (according to the syndromic approach recommended by the Ministry of Health).<sup>7</sup> The patient evolved with progressive improvement of lesions and symptoms, with complete remission of the symptom complex after two months of treatment. As regards the bacteriological results (Gram and culture) of the urethral secretion, penile ulcers and oral ulcer, Gram-positive cocci were found in all sites, as well as an **isolated** single germ of the *Streptococcus agalactiae* type in the cultures (chocolate agar medium for the urethral secretion and blood agar medium for genital and oral ulcer secretions, positive CAMP test), all with the same antibiogram profile (sensitive to penicillin, clindamycin, erythromycin, vancomycin and chloram-

phenicol). Considering the bacteriological findings, laboratory tests and clinical response to the treatment prescribed, it was decided not to begin another antimicrobial scheme but just do the clinical and laboratory follow-up. Four weeks after the end of treatment, the patient had not presented new lesions or positive serologies (VDRL and anti-HIV), being lost to follow-up after this period.

## DISCUSSION

Only a few cases of *Streptococcus agalactiae* as the causative agent of urethritis, genital and oral ulcers were found in the worldwide literature. It is known that this pathogen is a possible agent of skin and soft tissue infections, and that its preference is for extreme age groups (neonates until the first week of life and the elderly above 65 years of age), pregnant women during delivery and those chronically debilitated (such as diabetics and carriers of malignant neoplasms), and that it is rarely found outside of this patient profile.<sup>1,5</sup> It can colonize between 20-35% of the population (generally isolated in rectum, perineum, vagina, cervix and urethra cultures), with greater prevalence in sexually active individuals and in those with multiple sex partners, suggesting that it is acquired by sexual contact.<sup>1</sup>

As regards cutaneous affection, it is important to remember that GBS is statistically surpassed by group A Streptococcus (GAS).<sup>2</sup> The infections that are typically related to GBS are erysipelas/cellulites and wound and ulcer infections. More rarely, we also find necrotizing fasciitis and the toxic shock syndrome. In up to one third of cases, these infections are polymicrobial, with the *Staphylococcus aureus* as the most frequently co-involved germ.<sup>1,4</sup>

Oral ulcers such as that described in this case were not found in the literature. As for the genital ulcers, we found only one report described by James<sup>(3)</sup>, in 1984. Regarding GBS as a microorganism



FIGURE 1: Shallow ulcers on a yellow-green exudative base, located on the glans region and pubis, close to the body of the penis



FIGURE 2: Single ulcer exuding a fetid, thick yellow-green secretion

causing urethritis, there is little information in the literature, with a reported estimated prevalence of 1.5% of cases among urethritides of non-gonococcal origin.<sup>6</sup> It is also estimated that GBS is found in around 3.4% of urine cultures of female patients that are known carriers of lower urinary tract infections, with a smaller percentage in male patients.<sup>8</sup>

The role of *Streptococcus agalactie* as causing agent of sexually transmitted diseases (STDs) is still controversial.<sup>9,10</sup> Its characteristics suggest that it may have an opportunistic behavior, and that the presence of immunological frailty may be necessary for the microorganism to find conditions to develop some kind of disease. In the opinion of the authors, the data collected in the patient's anamnesis and related to the clinical and laboratory findings suggest that this is a case of STD caused by *Streptococcus agalactie*. □

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### MAILING ADDRESS / ENDEREÇO PARA CORRESPONDÊNCIA:

Marcos Noronha Frey  
Avenida Itajaí 110/202 - Petrópolis  
CEP 90470-140 - Porto Alegre-RS, Brazil  
E-mail: marcos.frey@gmail.com

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