

Rhinoscleroma: A case report

MARTÍNEZ-HERRERA, Erick*†, PORRAS-LÓPEZ, Carlos'', SÁNCHEZ-RODRÍGUEZ, José Luis'' and ARENAS-GUZMÁN, R''''

**Universidad Nacional Autónoma de México, Departamento de Microbiología y Parasitología, Facultad de Medicina, Ciudad de México.*

''Instituto de Dermatología y Cirugía de Piel "Prof. Dr. Fernando A. Cordero C", Unidad de Micología Médica, Ciudad de Guatemala

''''Hospital General "Dr. Manuel Gea González", Sección de Micología, Departamento de Dermatología, Ciudad de México

Received January 30, 2015; Accepted October 23, 2015

Abstract

Rhinoscleroma is an unusual chronic and progressive infection caused by *Klebsiella rhinoscleromatis*, associated with chronic upper airways obstruction. It is endemic in Latin American countries. We present a 42 year-old female, with a five year history of a chronic nodular affection localized in nasal and infra-nasal region.

Rhinoscleroma, *Klebsiella rhinoscleromatis*, Mickulickz's cells.

Citation: MARTÍNEZ-HERRERA, Erick, PORRAS-LÓPEZ, Carlos, SÁNCHEZ-RODRÍGUEZ, José Luis and ARENAS-GUZMÁN, R. Rhinoscleroma: A case report. ECORFAN Journal-Republic of Guatemala 2015, 1-1: 31-35

* Correspondence to Author (email: martinezerickh@gmail.com)

† Researcher contributing first author.

Introduction

First described in 1870 by Von Hebra, rhinoscleroma is a rare progressive chronic granulomatous infection that mainly affects the airways. [1,2] The apparatus is initially located in the nasal passages and upper respiratory tract invade and tear and sometimes invasion tracheobronchial. [3,4] tract produces an invasive granuloma with a marked tendency to sclerosis and obstruction subsequent. [5-6]

It is caused by *Klebsiella rhinoscleromatis*, and is endemic in Central and South America. It appears in the third decade of life, predominantly in women 13: 1 and is associated with low socioeconomic status population. Its mechanism of transmission is direct contact.

The pathogenesis is due to iron deficiency and specific fagocytosis deficit. The clinical picture is manifested through three stages: Stage I exudative, or catarrhal rhinitic; that arise as symptoms of common cold with fetid purulent rhinorrhea, nasal obstruction unilateral or bilateral, crusting, burning and dryness of the pharynx. Granulomatous or proliferative stage II; rhinitis symptoms diminish, no infiltration and obstruction of the lower portion of the nostril, granulation tissue is exuberant, friable, crusty and induration. Stage III sclerotic; where clinical improvement, previously inflamed tissues are replaced by collagen dense, there is a process of spontaneous or after treatment leads to healing but anatomical distortion and stenosis of the affected structures during proliferation [8,9] stadiums.

Recommended treatments are based on the use of antibiotics and surgery for a long time. Good results being obtained using fluoroquinolones as ciprofloxacin or levofloxacin [10].

Surgery is needed if there is a stenotic laryngotracheal commitment to life-threatening and in the case of nasal obstruction with impaired quality of life. It must monitor the therapy as this has shown up to 76% of recurrences [11].

Clinical case

A female patient 42-year-old from San Marcos Guatemala, treated at the Institute of Dermatology and Skin Surgery "presented Prof. Dr. Fernando A. Cordero C", who came to present injury infranasal region of 5 years of evolution, which grows as time passes, accompanied by foul odor, and no response to previous treatment with amoxicillin. Denies history. A physical examination is: chronic dermatosis localized in nasal and infranasal region, characterized by erythematous and infiltrated lesion nodular, reaching 1/3 proximal septum, about 5 centimeters in diameter, with regular edges, defined, which in its central zone is serum and purulent crust on the surface neovascularization (Fig. 1) is located. Laboratory tests that were performed; Full, TTP and normal HIV negative test TP and hematology. Treatment was ciprofloxacin 500 mg twice daily and referred to the otolaryngology service.





Nodular lesions caused by *Klebsiella rhinoscleromatis* are observed.

Figure 1 Rhinoscleroderma

The secretion culture was positive for *Staphylococcus aureus* sensitive to β -hemolytic amoxicillin and ciprofloxacin. Two biopsies were performed in 4 mm punch. The first was macerated which was negative, and the second stained with hematoxylin and eosin showed that stratum corneum network basket and atrophic epidermis. Resurfacing to deep dermis with interstitial inflammatory infiltrate composed of plasma cells with bright eosinophilic material presence inside that corresponded to Russell bodies and Mikulicz cells, Giemsa positive (Fig. 2 and 3).

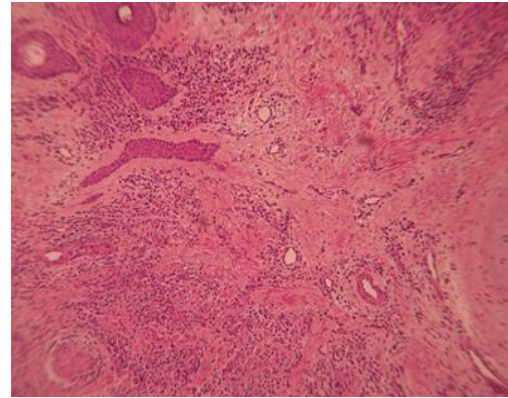
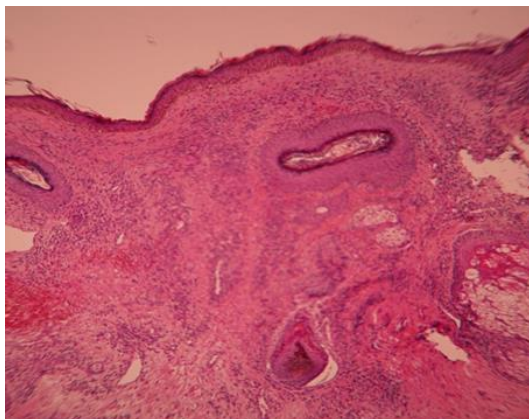


Figure 2 Biopsy inflammatory infiltrate with plasma cells (HE 40X)

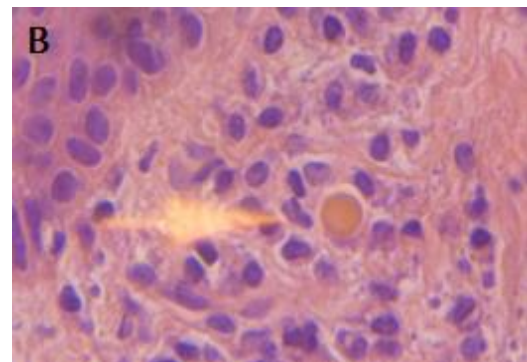
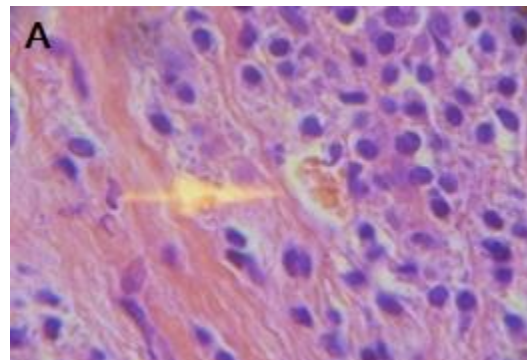


Figure 3 Mikulicz cells (A) and Russell bodies (B).

Discussion

Since its discovery in 1870 rhinoscleroma diagnosis in endemic areas, showing an upturn with fungal infections of the oropharynx due to the emergence of HIV, both in developed countries and in the process of development.[12].

Rhinoscleroma in turn is associated with low socioeconomic status, overcrowding, malnutrition and poor hygiene [9-13]. Diagnosis is based on clinical display, histopathology, imaging findings and the visualization of the lesion by endoscopy, being useful to rule out other diseases and determine the extent of being lesiones.[14] histopatológico clinical diagnosis and in our case imagenoscopia I showing the presence of vacuolated cells containing the Gram negative bacillus, *Klebsiella rhinoscleromatis* encapsulated in Mickulickz called cells (Figure 3) [15].

Bacteriology in the case of rhinoscleroma has low sensitivity, around 50-60% 16, not the exception being the case where only managed to establish a co-infection with *S. Aureus*.

In our case catarrhal presentation, the septum and inferior turbinate were the ideal places to get the sample. Ideally, the biopsy of affected areas of granulomas. Laryngeal dyspnea exist characterized by the presence of stridor, retractions, bradypnea and dysphonia (not always present) and mass occupying upper airway should always do rhinoscleroma differential diagnosis, as suggested by Villaverde N et al.[17]

In our case, a patient forty-two years is shown, which correlates with the reported epidemiology, since it is the genre where it is observed more frequently (13: 1) and also from the third decade of life, which correlates with the incubation period five years.[18]

As for treatment, it has reported excellent results flouroquinolonas and in some cases depending on the pattern of susceptibility or resistance, has also been used streptomycin and minocycline between otros.[19,20]

Given the good results with flouroquinolonas decided treat our patient with ciprofloxacin 500 mg twice daily, and referring it to otolaryngology.

References

- [1] Hart CA, Rao SK. Rhinoscleroma. J Med Microbiol 2000; 49(1): 395–6.
- [2] Navazo AI, Garcia F. Rinoescleroma. Acta Otorrinolarigol 2010; 61(2): 160-162.
- [3] Thompson LD. Rhinoscleroma. Ear Nose Throat J 2002 ;81(1):506.
- [4] Fusconi M, Paulice G, Ippoliti F, Mastronicola R, Ralli G, de Vincentiis M. Modification of lymphocyte subsets in patients with rhinoscleroma. American Journal of Otolaryngology 2006; 27(1): 401-405.
- [5] E. Botelho-Nevers, F. Gouriet , H. Lepidi, A. Couvret, B. Amphoux, P. Dessi, D. Raoult. Chronic nasal infection caused by *Klebsiella rhinoscleromatis* or *Klebsiella ozaenae*: two forgotten infectious diseases. International Journal of Infectious Diseases 2007; 11, 423—429.
- [6] Grzybowski A, Sak J. Jan Mikulicz-Radecki (1850-1905): His impact on modern medicine. Clinics in Dermatology 2012; 30:129-136
- [7] N'gattia KV, Kacouchia N, Koffi-N'guessan, Mobio NM, Koausi-Ndjeundo J, Koausii M, Yoda M, Vroh TS. Retrospective of study the rinoescleroma about 14 in ENT departments of university hospitals (Côte d'Ivoire). European Annals of Otorhinolaryngology, Head and Neck diseases 2011; 128(1): 7-10.

- [8] Bhowate R, Degwekar S. Rhinoscleroma with involvement of the maxillary sinus, orbital floor, and temporomandibular joint: A case report J Oral Maxillofac Surg 2012; 70(1): 135-140.
- [9] Muñoz D, Olavarría C. Infección por *Klebsiella rinoscleromatis*. Revisión de una entidad otorrinolaringológica de importancia creciente. Revista Anacem 2009; 3(1): 40-42.
- [10] Yigla M, Ben-Izhak O, Oren I, Hashman N, Lejbkowitz F. Laryngotracheobronchial involvement in a patient with nonendemic rhinoscleroma. Chest 2000; 117(6): 1798-1798.
- [11] Verma G, Kanawaty D, Hyland R. Rhinoscleroma causing upper airway obstruction. Can Respir J 2005; 12(1): 43-45.
- [12] Zaidiza Y, Gutiérrez O. Frecuencia de enfermedades granulomatosas en otorrinolaringología en un hospital de tercer nivel. Act Otorrinolaringol & Cir Cabeza y Cuello 2007; 35(3), 84-87.
- [13] Del Villar M, Vallejos M, Arregui R, Vega C, Medina D. Rinoscleroma, una enfermedad rara en Chile: Reporte de un caso clínico. Rev Otorrinolaringol Cir Cabeza Cuello 2004;64:127-33.
- [14] Prince JS, Duhamel DR, Levin DL, Harrell JH, Friedman PJ. Nonneoplastic lesions of the tracheobronchial wall: radiologic findings with bronchoscopic correlation Radiographics 2002; 22(1): S215-S230.
- [15] Canalis RF, Zamboni L. An interpretation of the structural changes responsible for the chronicity of rhinoscleroma. Laryngoscope 2001; 111(6): 1020-1026.
- [16] Verma G, Kanawaty D, Hyland R. Rhinoscleroma causing upper airway obstruction. Can Respir J 2005; 12(1): 43-45.
- [17] Villaverde N, García M, Marugán L, Cano JC. Obstrucción de la vía aérea superior secundaria a rinoscleroma. SEMERGEN 2007;33(6):320-2.
- [18] Abalkhail A, Satti M, Uthman M, Al Hilli F, Darwish A, Satir A. Rhinoscleroma: a clinicopathological study from the Gulf region. Singapore Med J 2007; 48(2):148-151.
- [19] Alcalá D, Arias D, Navarrete G. Rinoscleroma. Comunicación de un caso, Dermatol Rev Mex 2009;53(3):156-9.
- [20] Chan T, Spiegel J. *Klebsiella rinoscleromatis* of the membranous nasal septum. J Laryngol Otol 2007; 121(10): 998-1002.